A COMPARATIVE STUDY ON THE DISTURBANCES IN BODY IMAGE, PSYCHIATRIC MORBIDITY AND THEIR EFFECTS ON QUALITY OF LIFE IN POST MASTECTOMY AND POST HYSTERECTOMY CANCER PATIENTS

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CERTIFICATE

This is to certify that the dissertation title, **" A comparative study on the disturbances in body image, psychiatric morbidity and their effects on quality of life in post-mastectomy and post-hysterectomy cancer patients"** submitted by **Dr.V.Sushma**, in partial fulfillment for the award of the MD degree in Psychiatry by The Tamil Nadu Dr.M.G.R. Medical University, Chennai, is a bonafide record of the work done by her in the Institute of Mental Health, Madras Medical College during the academic years 2010-2013.

DIRECTOR

Institute of Mental Health
Chennai

DEAN

Rajiv Gandhi Government
General Hospital and Medical
College

DECLARATION

I, **Dr. V. Sushma,** solemnly declare that the dissertation titled, **"A comparative study on the disturbances in body image, psychiatric morbidity and their effects on quality of life in post-mastectomy and post-hysterectomy cancer patients"** has been prepared by me, under the guidance and supervision of **Dr. R. JEYAPRAKASH** M.D., D.P.M., Professor of Psychiatry, Madras Medical College. I also declare that this bonafide work or a part of this work was not submitted by me or any other for any award, degree, diploma to any other University board either in India or abroad.

This is submitted to The Tamilnadu Dr. M. G. R. Medical University, Chennai in partial fulfillment of the rules and regulation for the award of M.D degree **Branch – XVIII (Psychiatry)** to be held in April 2013.

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CONTENTS

ABBREVIATIONS

1.	BIS	Body Image Scale
2.	QOL	Quality Of Life
3.	HAM – A	Hamilton rating scale for Anxiety
4.	HAM – D	Hamilton rating scale for Depression
5.	AE	Appearance Evaluation
6.	AO	Appearance orientation
7.	BASS	Body Area Satisfaction Scale
8.	OWP	Over Weight Preoccupation
9.	SCW	Self Classified Weight
10.	QL2	Global Health status
11.	FS 1	Functional Scale 1
12.	FS 2	Functional Scale 2
13.	SS 1	Symptom Scale 1
14.	SS 2	Symptom Scale 2
15.	PF2	Physical Functioning
16.	RF	Role Functioning
17.	EF	Emotional Functioning
18.	CF	Cognitive Functioning
19.	SF	Social Functioning

INTRODUCTION

Cancer, described popularly as a malady ascribable to the precipitous overgrowth of certain infinitely multiplying cells at the expense of the surrounding tissues, has been a domain of concern for the medical fraternity for ages. The achievements in the field of oncological research and health care have been tremendous, nevertheless, the panacea for this dreaded disease has been eluding the human race for centuries. The graveness of the disease, although is universally recognised, one cannot but disregard the morbidity, grievousness and disfigurements rendered by the current treatment modalities per se. The heartrending agonies, experienced by these unfortunate patients have been increasingly realized and a need to acknowledge various psychological aspects of their self-perception cannot be understated.

Breasts and uterus constitute and exemplify the basic symbol of femininity and womanhood. They are inevitable in the physical, physiological, emotional and psychological spheres of every woman's life. Any deprivation of these organs, well-accepted as the principal treatment modality in diverse breast and gynecological malignancies, can have devastating aftermaths on the very belief of self-esteem and muliebrity in women, apart from the more obvious physical consequences. The profound impact of such circumstances on the

wellness of the families and society, at large, cannot merely be back grounded as well.

Malignancies of the breasts are increasingly encountered by the medical practitioners worldwide. The incidence of these cancers in India is 20.5/100,000.As per the epidemiological survey conducted by the Madras Metropolitan Cancer Registry the incidence of breast cancer in urban Chennai is 31.0/100,000; the mean age of onset for breast cancer is 45.5. The 5 year survival rate after completion of treatment is 65% , while that for partially treated and defaulted patients, it is 40%. Mastectomy and Lumpectomy with breast conservation are the two most common surgeries performed.

Gynecologic cancers form the other most common loci for malignant disease in women, the four sites commonly involved in descending order being endometrial, cervical, ovarian and vulvar cancers. The incidence of Endometrial cancer is 2.5/100,000 and that of cervical 23.2 in India. The incidence of endometrial cancer in urban Chennai is 4/100,000 and that of cervix is 18/100,000 ; the mean age of onset for endometrial and cervical cancer is 50 – 54 years. The 5 year survival rate for cervical cancer is 65 years and it is even higher in endometrial cancer. Total abdominal hysterectomy with bilateral salpingo-oophorectomy is a definitive therapy in a variety of gynecological malignancies.

Importance of Psycho oncology: The field of psycho-oncology has emerged as a sub speciality within oncology and psychiatry. It deals with the psychological, behavioral and social factors influencing the risk, detection, treatment and prognosis of cancer.

The disease and its treatment modalities evoke varied responses among individuals based on one's personality factors, ego-strengths, coping strategies, adaptation skills and the support from the treating faculty, family and the society apart from the socioeconomic and socio cultural background. The fear of shortened life span and the approach of death along with the have a strong impact on their psychological behavior. Psychoneuroimmunological studies reveal the involvement of stress and hypothalamic-pituitary axis on the initiation and progression of psychological responses.

Breast cancer has a complex impact on women. The medical, psychological and psychosocial factors and the socio cultural background are the major factors which influence them. Prevalence of depression in these patients is twice as that in general female population.

In case of gynecological malignancies, late presentation due to non-specific symptoms is an important cause for distress. The physical and psychological symptoms have both independent and cumulative effects on them.

The condition of cancer survivors is an important area to be focused. They experience changes in the physical and psychological aspects on concept of self. These along with psychological morbidity affect the quality of living in these women.

Body Image: One of the earliest definitions of body image by Schilder is a “a picture of our own body which we form in our mind, that is to say the way in which the body appears to ourselves”. It is a dynamic construct. The various treatment modalities affect the concept of body image in cancer patients. Therefore it is of prime importance to address this issue while planning treatment as it affects the patients’ and their family’s quality of living.

Quality of life: WHO defines ‘quality of life’ as “Individual’s perception in the context of their culture and value system in which they live and in relation to their goals, expectations, standards and concerns”. Quality of life covers the following domains – physical, emotional, social, cognitive, role and financial wellbeing.

Psychiatric Morbidity: The psychiatric morbidities encountered frequently in cancer patients who underwent a surgical procedure as a part of the treatment regimen can be enumerated as the following:

Delirium, dementia and other cognitive disorders, Adjustment disorder, Anxiety disorders – PTSD, generalised anxiety disorders, panic attacks, and specific phobias, Depressive disorders, suicide,Cancer

related fatigue, Bipolar disorder, Personality disorders, Schizophrenia and other psychiatric disorders, Substance use disorders ,Somatoform disorders Pain, Sexuality, survival rate, delayed consequences of treatment are the major concerns in cancer patients.

Current treatment modalities focus on symptom removal and the physical effects of the treatment options. Recognizing quality of life as an endpoint/goal of treatment has not been considered and due credit to this aspect has not been given till now particularly in developing countries.

Psychiatric morbidity though an obvious co-existing problem along with the primary disease is being underdiagnosed and neglected even if diagnosed. It is essential to identify and treat psychiatric morbidities at the earliest stage possible and to bring about psychological well being along with physical well being. This is all the more important in cases where psychiatric morbidity is present even before the cancer diagnosis.

Body image and sexuality is one sensitive area which is slowly receiving attention at present. This is one area which is being neglected mainly because of the social, educational and cultural background. With the mean age of tumor patients being in a decline, this field has come into focus.

But a woman's integrity and concept of self revolves around her body image and sexuality which in turn has a profound impact on her

psychological well being and quality of life in all spheres. This also indirectly affects her family and society as well.

In both breast and gynaecological malignancies, lot of studies have focused on the psychiatric morbidity and quality of life issues. There are very few studies in this part of the world focusing entirely on the context of body image disturbances. As uterus is considered an internal organ, it is believed that its removal does not have as much effect on these factors as its counterpart in breast and other external organs.

This study mainly focuses on the body image disturbances and psychiatric morbidity in breast and gynaecological cancers and its influence on the various spheres of life of women.

REVIEW OF LITERATURE

Cancer – its diagnosis can lead to numerous psychological problems because of various factors. Apart from physical symptoms, constant fear of recurrence and death and treatment uncertainty, there are changes in personality, self concept and sexuality, family circumstances and quality of life (Abasher, 2009, Dizon, 2009).

Numerous studies in literature have focused on feminine cancers and their effects on physical, emotional, social and role functioning including the sense of femininity, sexuality and spouse relationships. (Stead, 2004). Chen et al (2009) have reported increased rates of depression in breast and gynecological cancer patients. The incidence of depressive and anxiety symptoms is noted maximum within the first year of diagnosis in 50% of breast cancer patients. (Den Oudsten et al, 2009).

Silverberg (1984) reported that breast and gynecological cancer women are at a high risk for sexual problems. These two sites combined form 44% of female cancers diagnosed in a year. Extensive studies have been conducted on psychological outcomes in breast cancer patients. Most of these studies have estimated the overall sexual disruption, decreased intercourse frequency, difficulties with orgasm from 21% to 39% in retrospective manner. (Silberfarb et al, 1980). Body image and marital adjustment are relevant areas common for both breast and

gynecological cancer patients. The mere diagnosis of the disease itself shakes the fundamental faith of existence among cancer patients.

Breast Cancer:

Breast is an organ which is considered as the symbol of femininity and cancer in this organ as well its treatment modalities greatly affect the physical, mental and psychological framework of the patients.

Body Image is defined as a mental construct that develops since birth along with motor and sensory developments through exploring the world around. (Schilder, 1935). According to Sertoz et al (2009) body image refers to one's attitude, perceptions and emotions towards one's own physical appearnce, self and functionality. Body image is described in the cognitive, affective, behavioural and evaluative context. Body image disturbances together with poor self esteem and psychological morbidity have a cumulative negative effect on the quality of life (Jamison, 1978). Bailey et al (2009) defined body image as a symbol of femininity, attractiveness and social expression. They listed the areas of negative body image, namely, dissatisfaction with appearance, decreased sense of sexual attractiveness and unwillingness to see her naked body. Petronis et al (2003) suggested that the body image disturbances are a great concern for women with breast cancer.

According to Carver et al (1998) women with breast cancer perceive body image in terms of lack of sense of wholeness and functionality. It has been suggested by them that women who weigh self worth on the basis of body image may be at increased risk of psychosocial maladjustment after treatment for breast cancer. The treatment modalities for breast cancer have also a profound impact on both body image and sexuality.

Psychological sequelae of sugery: Two most common surgical treatments for breast cancer are mastectomy and lumpectomy. Mastectomy, being the standard treatment, can elicit feelings of annihilation, decreased self-worth, decreased sexuality and loss of femininity. These are associated with fear of recurrence, abandonment and death. (Rowland and Massie, 1998). Also increase in anxiety, depression, hopelessness, guilt and shame has been reported in these patients. W. Janni et al (2001) reported higher emotional stress and dissatisfaction with body image due to change in physical appearance after mastectomy. More recent analyses have found better psychosexual outcomes with conservative surgeries. (Yurek, 2000). Ganz et al (1992) reported that there was no significant difference in quality of life or mood between the mastectomy and breast conservation groups. But the latter had lesser problems with body image and choice of clothing.

Fallowfield et al (1986) reported the incidence of anxiety and depression to be 33% and 38% in mastectomized and breast conserved patients respectively.

de Haes and Welvaart (1985) compared the lumpectomy and mastectomy patients and found that the two groups differed significantly in body image alone among other indices like psychological disturbances, physical symptoms, marital satisfaction and libidinal level. On the other hand, Poulson et al (1997) noted no difference among these variables in the two groups. A French study conducted on the factors influencing the choice of surgery revealed that women who identified consideration for body image and sexuality chose reconstructive surgery over mastectomy. These patients belonged to younger age group. The study implied that age along with body image and sexuality had a great influence in deciding the choice of mode of treatment. (Anian et al, 2004). Fiona et al (2005) conducted a comparative study on coping skills and body image between 50 mastectomized and 25 lumpectomized female patients. The former group expressed concern about body image disfigurement. Coping strategies effectively resolved the concerns except for sexual role and performance and recurrence. They also measured the severity of depression and anxiety. But the difference was not statistically

significant. They concluded that the coping skills have to be strengthened for the effective resolution of the concerns.

The treatment modality for breast cancer involves apart from surgery, radiotherapy and chemotherapy also.

Chemotherapy can lead to dermatitis, hair loss and weight gain. These features invariably have an impact on body image. Chemotherapy affects the sexual functioning both directly and indirectly: directly through its hormonal effects and indirectly through its physical side effects which includes fatigue, nausea, vomiting, sleep and appetite disturbances (Kaplan,1992).

Sexuality is affected in the first year after cancer treatment. (Abasher,2009). 90% of women undergoing treatment for breast cancer experience sexual dysfunction (Dizon, 2009). All the four modalities of treatment (surgery, chemotherapy, radiotherapy and hormonal therapy) have an effect on sexual dysfunction. Chemotherapy causes dyspareunia, vaginal dryness, and decreased sexual drive (Henson, 2002, Lindley et al (1998). The medicines given for treating psychiatric comorbidities like pain, anxiety or depression also cause sexual dysfunction. (Martinez, 2008). The studies by Lindley et al, 1998, Curran et al (1998) show that 50 to 60% of women undergoing chemotherapy experience sexual dysfunction beyond the first year indicating the severity of the effects of

chemotherapy. Chemotherapy induced menopausal women experience more sexual dysfunctioning indicating the influence of chemotherapy on this factor. (Ganz et al, 1998). Possible mechanism as explained by Kaplan (1992) is due to deficiencies of hormonal levels not only of estrogen but also of androgens on sexual functioning.

Radiotherapy in the adjuvant setup has less influence on sexual dysfunction than chemotherapy (Steinberg, 1985, Beckmann et al 1983). Radiotherapy can cause skin discoloration. Other short term side effects like breast tenderness, skin redness and hypersensitivity may affect the body image. Lymphoedema, leading to arm swelling is a well recognized side effect of axillary radiotherapy especially when used along with axillary dissection. This can have an impact on body image concept. (Farooqi, 2005)

Numerous studies on the impact of hormone or endocrine therapies on body image and sexuality have been conducted. The side effects of such treatment include weight gain, hot flushes, nausea, vaginal irritation, discharge, and dryness. (Budzaret et al,1998). Tamoxifen is found to be the most common culprit. Two thirds of women on tamoxifen treatment experience hot flushes and it is noted to be severe in about one third of patients. (Carpenter et al,1998).

There has been inconsistent results in the area of sexual dysfunction with various studies reporting both increase and decrease in libidinal function. (Barni et al, 1998, Leonard et al, 1996).

Studies have not indicated any significant increase in psychiatric morbidity as a direct effect of hormone therapy (Ganz, 2001, Fisher et al, 1998). Thomas Mcclean in 2005 reported the "Phantom breast syndrome" whose incidence out of 198 patients was found to be 23 – 52.7% by Meyllowitz (1980). Recent studies have shown the incidence to be 22.9%, seen mainly in younger women and with depressive symptoms. (Ferreira et al, 2003). One of the most important factor affecting sexual and physical functioning is pain following surgery and Radiotherapy. A study by Ghizzani et al, 1995 noted that women who do not attain menopause after treatment have a more effective sexual functioning, including normal sexual desire and gratification and marital harmony.

Young (1996) conducted a study on breast cancer patients treated with adjuvant chemotherapy after control for hormonal therapy showing chemotherapy to be associated with significant sexual dysfunctions and menopausal symptoms. They also reported more of the physical complications, organismic difficulties, vaginal dryness, mood swings, pain during sexual intercourse, weight changes and hot flushes.

Longitudinal studies conducted have emphasized that in course of time most of the women adjust to the changes in self esteem and sexuality. Few of them experience long term morbidity. (Ganz et al, 1998, Dorval et al, 1998). Studies by Ganz et al (1996) have revealed delayed onset of these symptoms highlighting the importance of timely assessment and intervention. One important factor affecting postoperative sexual functioning is the quality of pre-operative sexual functioning. (Bransfield, 1982).

A woman's choice of treatment is likely to be influenced by age, her hopes, fears and present body image status. Some women choose Breast conservation therapy over modified radical mastectomy for cosmetic reasons. Some choose mastectomy mainly due to fear of recurrence and treatment with radiotherapy regardless of the effect on their body image.

Psychosocial Issues:

Treatment modalities of breast cancer, especially mastectomy have profound effects on spouse relationship and marital harmony apart from the diagnosis itself. (Isabel Pinto, 2010). Few studies have reported the marital problems as a result of mastectomy, leading to divorce and abandonment in extreme cases (Karabulut et al, 2009, Sheppard et al, 2008, Kalaitzi et al, 2007).

Fallowfield (1996) reported that there is no significant difference in psychiatric morbidity among patients who undergo mastectomy and conservative surgery.

Treatment related morbidities:

Harrison and Maguire (1994) showed that Randomised Controlled Trials of adjuvant chemotherapy revealed association of chemotherapeutic agents with excessive psychological, social and sexual problems. Psychological consequences of radiotherapy were present beyond six months after completion of the treatment but were lower than their counterparts receiving chemotherapy where the complications are seen after 12 months of completion of the treatment. Schebusch (1999) noted Post Traumatic Stress Disorder as a predominant symptom in those who were in remission.

Greer et al (1983) classified psychiatric morbidity in cancer into 3 types.

a) diagnosis related

b) treatment related

c) terminal phase of illness related.

Study by Maguire et al (1978) assessed psychiatric morbidity associated with mastectomy compared to control comprising of patients with benign breast disease from onset of diagnosis till one year after

treatment. There were higher rates of prevalence of psychiatric morbidity in the first group. 39% of patients in the first group required treatment for anxiety, depression and sexual difficulties.

Ganz et al 1985, found anxiety and depression to be the two most common psychiatric disorders associated with breast cancer. Poor social and emotional support, maladjustment, presence of pain and fatigue, reduced coping skills- form strong predictors of psychiatric problems in breast cancer. This study highlights the importance of patients emotional reactions to illness in psychiatric morbidity.

The prevalence of associative disorders ranged from 1-49% while that of depressive disorder ranged from 1.5 – 46%. Morasso et al 2001). Morris et al (1977) found that the prevalence of depression in women was found to be 22% following mastectomy.

Various demographic factors predict the onset and prognosis of psychiatric morbidity (Taylor et al, 1985, Morris et al, 2001)

All stages of disease and treatment procedures affect psychological reaction of women. The reactions vary from person to person in different stages . Morris et al (1977) found that the prevalence of depression in women was found to be 22% following mastectomy. Various demographic factors predict the onset and prognosis of psychiatric morbidity. (Morris et al 2001, Taylor et al, 1985).

Undergoing treatment for breast cancer is a traumatic experience for women mainly due to its effects on body image, sexuality and self-esteem. (Yankaskas, 2005). This is also due to the effects of the illness and treatment on their families and spouses. (Rabinowst, 2002).

For example, denial and anger in the initial stage, anxiety and depression at later stages affect the patients. Treatment modalities mainly lead to fear of relapse/recurrence increasing the incidence of anxiety and depressive disorders .

Good social and emotional support from family and proper adaptive and coping skills were found to be lacking in persons diagnosed with anxiety and depressive symptoms. Mc Caul et al 2009.

Depression:

Prevalence of depression among survivors is found to be between 0-38% for major depression and from 0-58% for depression spectrum syndrome (Massie, 2004).

Factors negatively influencing maladjustment to illness are history of depression in the past; Medical/surgical co morbidity; Low Socio Economic Status; side effects of illness; ineffective coping styles and social support; Multiple stresses (Alfano and Rowland, 2006).

Grief:

Survivors usually focuses her grief about illness, leading to revisiting of previous unresolved grief (Stroebe and Schut, 1995). Risk

factors associated with prolonged grief disorder are insecure attachment styles, parental abuse/death, separation anxiety, dependency and lack of marital support (Priggerson et al, 2009). Anticipating grief may occur at the thought of death or treatment uncertainty (Virginea Lee et al, 2008). It is more common in survivors of metastatic disease.

Anxiety:

American Psychiatric Association, 2000 defines anxiety as an emotional or physiological response to various causes, known or unknown ranging from a normal reaction to extreme dysfunction. Anxiety in survivors is attributed to the illness, treatment, and its adverse effects and fear of recurrence (Amir and Ramati, 2002)

Post Traumatic Stress Disorder(PTSD):

Jim and Jacobson, 2008 described PTSD as a disorder that occurs when an individual is unable to reconcile the shock of an event, traumatic in nature; with regard to core beliefs about oneself and the world. It is estimated that 16-28% experience intrusive thoughts and 15-34% have avoidance behaviour after treatment completion. Women with CT were found to be at increased risk for PTSD upto 5 years after treatment. (Amir and Ramati, 2002). PTSD is found to be associated with increased incidence of depression and reduction in quality of life.

Post traumatic growth is found in 3 life domains – social resources, personal resources and coping skills (Jim, Jacobson, 2008). It is

associated with perceived threat of death and perceived stress of the illness. Perceived threat helps in post traumatic growth if moderately present, otherwise if can impede the growth of the survivor.

Biological correlates of depression are being investigated recently. They were studied in relation to coping styles, psychological status and survival . Evidence has been reported for alteration in circadian pattern of cortisol secretion in patients with advanced disease. Septon(2000) found that flattening of diurnal cortisol slopes was associated with reduced survival time in metastatic breast carcinoma. (42). Turnercoff et al (2000) showed an association between level of social support, belonging and appraisal with cortisol level in metastatic breast cancer.

Certain physical and psychological symptoms occur due to a condition called 'cytokine-induced sickness syndrome' as a result of illness and treatment (Savard et al, 2000) (Example: apathy, social isolation, withdrawal, psychomotor retardation, cognitive disturbances).

Early psychological studies have shown that following radical mastectomy, women had significant post operative depression, anxiety and poor self-esteem. (Schottenfield et al, 1970).

Thapa et al 2010, noted that stage of disease and quality of life (QOL) are predictors of PTSD like symptoms after mastectomy. Also women who received aggressive chemotherapy are prone to develop

PTSD. They also reported prevalence of delirium to be 15-20% in patients undergoing palliative care.

Psychosocial issues: Reactions to illness, adaptation and coping strategies are important psychosocial issues to be considered. Psycholgical outcome of cancer surgery is influenced by various factors apart from the surgical procedure and illness correlates per se. They include premorbid personality traits, coping styles, stressful life events, premorbid psychiatric illness, social support and the extent of surgery (Gunz et al, 1985).

Coping skills play an important role in reaction to illness, concept of self, psychiatric morbidity and quality of life in cancer patients.

Various definitions of coping are given in the literature which are as given below:

1. Adapting to a situation that is demanding (Rowland, 1989)
2. Defense mechanisms that are stable and generalised (Valliant, 1977)
3. Cognition or emotion related intrapsychic efforts or field related action may be applied to eliminate or decrease of annihilate the present or future expected stresses.

Various methods of coping have been described in literature and they are:

1. Emotional coping (Weismann, 1994)
2. Coping with social support (Dunkel et al,1994)
3. Coping through reconstructive surgery (Anderson and Kaezonesk, 1996).

McCaul et al (1999) proposed the mechanism of avoidant coping to be the most consistent predictor of distress in breast cancer patients.

QUALITY OF LIFE(QOL);

With the advancement of treatment modalities and diagnostic techniques, survival rate of breast cancer has increased, but has it been the same with Quality Of Life? This is an ongoing debate because the treatment itself results in psychological distress, disturbances in concept of self and physical functions leading to impairment in QOL. (Bhatty et al 2004, Vinokur et al, 1990, Levy et al, 1992.

The instruments used to assess QOL are - Functional Living Index for Cancer, RSCL, CARES- SF, EORTC-QOL, Health Related Quality Of Life.

An Assessment of QOL in breast cancer patients using EORTC-QOL C30/+BR 23 questionnaire. (Saleha et al, 2010) reveal that;

1, The primary goal of cancer treatment is improvement of quality life. (Lesley 1995).

2. Anxiety and depression along with impaired physical and sexual functioning followed treatment with surgery. (Raneker et al, 1952 , Bard et al , 1955)

Studies on psychological outcome in women with benign or malignant disease showed that problems with self-esteem, body image and psychiatric morbidity were imminent in post mastectomised women. (Morris et al, , 1978, Maguire et al, 1978).

HRQOL should be framed as a multidimensional construct. Important domains of the QOL include physical functioning; social interaction, physiological well being and disease symptoms or treatment.

Describing QOL as the basis of individual therapeutic modality will be useful from patient's perspective (Winer, 1994). Measuring QOL is important in evaluating treatment outcome and could be of prognostic significance for the planning of effective intervention.

Bloom et al (1987) reported that women who underwent mastectomy experience more social and psychological distress which can lead to disruption of her daily living for over a year after treatment. Impairment with QOL was higher for women with stage II breast cancer who underwent adjuvant treatment following surgery.

Marguire et al (1978) reported greater impairment of QOL in radiotherapy patients mainly due to physical changes. Marguire et al, (1980) reported increased psycho emotional morbidity in patients who

were given Chemotherapy. Cooper et al (1979) suggested that it could be due to the effect of chemotherapy regimen Cyclophosphamide, Methotrexate and5 - Flurouracil that was previously used widely. The authors end with a question asking what would be the state if traditional end points favour a particular treatment method but QOL suggests a different one to be superior? Though the dilemma persists, it should be reasonable to use QOL as endpoint if symptom palliation is desired to be achieved.

It is the responsibility of treating physician to take into account individual preferences if there is a possibility and to provide psycho education to the patients.

Ganz et al 1990, in his study noted that emotional well being in cancer survivors was important in predicting sexual dysfunction. Bellino et al, 2010 assessed the effects of personality characteristics on QOL, in patients who underwent breast reconstruction after mastectomy. Significant correlation was found between personality dimension and interpersonal functioning on QOL. Patients with high harm avoidance were apprehensive and doubtful. In these patients, body image restoration produced significant reduction, insecurity and social anxiety. For, vindictive/self centered patients consider reparative process as a fulfillment of their desire to revenge on cancer. The study concluded by suggesting to include preoperative personality assessment in patients

undergoing BCT to identify predictive factors for better outcome and QOL after early intervention.

Chen et al, 2010 in a systematic review highlighted the need for more validated patient reported outcome measures for future research. They also emphasized the need to develop cancer specific and treatment specific measures to assess QOL and body image disturbances.

In a review article by Montazesil, 2008, published articles from 1964 to 2007 were included. It was found that the most common and important disease and treatment related side effects were the ones neglected mainly in research and clinical practice. They include arm morbidity, pain, fatigue and post menopausal symptoms.

Cognitive functions, body image and menopausal symptoms should be given priority apart from long term effects of newer therapy which include musculoskeletal and neurological side effects (Grinison et al, 2007).

HYSTERECTOMY

Most of the available literature are on hysterectomies performed for benign reasons and only a few studies are available for malignant reasons. So the psychological studies conducted on hysterectomies for benign reasons cannot be extrapolated to malignant conditions since the risk factors and prognosis are entirely different for both the conditions. Since loss of reproductive system has a major impact on women's psychology, it is essential to monitor the psychological behavior both pre and post operatively. Post operative care and studies by the obstetricians mainly focus on the physical aspects and the psychological aspects which are of profound importance for the wellbeing and quality of life of these patients are mostly neglected. (Mathews et al, 1992). Copper et al (1981) opine that the post hysterectomy psychological behavior cannot be attributed to hormonal changes alone. It has been reported by Gath et al (1980) that psychological disturbances prior to hysterectomy shows 4-5 times higher incidence than in the normal population. As for as the post operative psychological problems are concerned, the preoperative morbidity and the surgery itself have an impact on them (Ryan et al, 1989).

Kincey et al (1984) enumerate three sets of psychological problems in hysterectomy patients as seen in the literature. They are,

a) Anxiety and depression due the surgical procedure
b) Sexual dysfunctions such as pain, post operative sexual activity, libido etc
c) Reactions concerning to self concept,especially, self-esteem changes, perception of femininity etc, Of course, these parameters are considered to be the most ambiguous.

Polius (1974) showed that loss of reproductive organs and capacity, fear of aging, and decreased sexuality lead to emotional crisis which ultimately results in depression in these patients.

Kraft Ebing in 1890 has reported the hysterectomy was the cause of psychoses more frequently than any other surgical procedure. Subramanian and Subramanian (1982) also reported that hysterectomy patients showed more frequent psychiatric disturbances than patients undergoing any other gynecological surgeries.

"Post hysterectomy syndrome" was proposed by Richard in 1974 which includes mood depressions, fatigue, headaches, insomnia, hot flushes, dizziness along with urinary symptoms.

A "stress response syndrome" following hysterectomy was proposed by Kaltreider and Wallance in 1979 which they described as a reaction to the loss of child bearing capacity.On the contrary to earlier studies in the

period from 1977 to 1989 four prospective studies conducted showed that post hysterectomy women seldom have psychiatric disturbances.

Bilateral oophorectomy together with hysterectomy leading to surgical menopause should be handled by gynecologists in a more serious manner and they should patiently explain all the issues in connection with menopause and hysterectomy to the patients and simply prescribing iron tablets and diet supplements in those situations will not be sufficient as per Baldaro et al 2003.

Hartmann et al 2004 reported that patients who had preoperative pelvic pain not only had higher level of anxiety before surgery but also showed more concern about the outcome of hysterectomy. According to Macdonald et al 1999, women undergoing hysterectomy expressed anxiety and depression also as body complaints. They showed decreased level of social well being even after 24 weeks of surgery.

Kjeruff et al (2002) assessed that while planning hysterectomies for benign conditions the physical, psychological and spiritual domains have to be taken into consideration prior to deciding upon the surgery. The surgery which was taken as a last resort predisposed these patients to anxiety and depression resulting from negative cultural and male attitude. As per Hamilton et al 1959, relevant psychotherapy in necessary dose

and duration should be given for the response in both depression and anxiety.

Many women view hysterectomy as a stressful event as reported by Cohen et al (1989). The usual complications are bladder dysfunction and morbidity due to fever and thromboembolic disease. A longitudinal study conducted by them showed that these complications can be reduced by using prophylactic antibiotics, modern surgical techniques, and early ambulation. But apart from these physical complications, the psychological problems such as depression, anxiety, sexual dysfunctions and lower self-esteem also have to be given due attention and care. (Cohen et al 1989 and Meikie Brody and Pysh 1977.)

Lindmann in 1941 reported the rate of depression in women following hysterectomy to be 40% which was further corroborated by Melody in 1962. Roopnarinesingh and Gopeesingh (1982) in their Trinidadian study reported that depression is the major complication occurring in 38% of women following mastectomy.

But more recent studies, do not support the incidence of depression in these patients as reported in the earlier studies. Khastgir et al (2000) in his review showed that adverse psychological problems in post hysterectomy women are not directly the result of the surgical procedure.

More recent works by Carlson et al (1994), Ferroni and Deeble (19960, Lambden et al (1997), Ryan (19970 and Rannestad et al. (2001) depicted that as the gynecological symptoms and the hormone levels improve, the psychological symptoms also improve in most of the women. In fact positive outcomes including decreased Drummond and Field (1984) depression was noted in recent works.

It is generally accepted that any surgical procedure would invoke fear and anxiety in the patients, But many studies conducted on post surgical scenario, have emphasized on depression more than anxiety following hysterectomy. (Roopanarinesingh and Gopeesingh, 1982). Of course, more recent research do not support the reports about the incidence of depression. Carter (1981) studied the influence of preoperative anxiety on the post operative conditions.

Ryan et al (1989) showed that the depressed mood before hysterectomy was 16 – 58% which was higher when compared to that after the surgery which was 8 to 32%. They suggested that the post operative outcome probably reflected the psychological adjustment made by the patients prior to the surgery. The specific personality constrains or individual attributes which may lead to negative psychological problems before or after the surgery are not well defined yet. Northorst-Boor and

von Schoultz (1992) showed neuroticism in women may lead to increased levels of depression after the surgery. While Singh et al (1983) showed with the higher preoperative expectations, the postoperative depression levels were also high.

Henducks-Mathews (1991) suggested that the sexual abuse that the patient experienced preoperatively may also result in postoperative negative psychological complications. According to him it is essential for preoperative assessment and counselling when required particularly about the surgery and also the sexual abuse in the past.

Premature menopause and loss of ovaries as a result of hysterectomy has been shown to be responsible for incomplete remission of depression following the surgery. (Melzack, 1982). He has shown that ovarian failure increased the risk of depression. Khast and Studd (1998) reported through controlled clinical trials that after hysterectomy the estrogen enhanced mood and improved the scores of depression.

Positive influence to negative impact has been shown to result from the effect of surgery on sexuality. Gath et al (1982) in a study consisting of 156 women could not find any decrease in sexuality after hysterectomy. But Clarke et al (1995) showed that though there was no change in the frequency of sexual acts, there was a change in the sexual

desire postoperatively. Several studies differ in their inferences associating sexual desire and hysterectomy. The differences are mainly because of the differences in defining the sexual desire, ,methods used for its assessment and also the type of surgery. (Galyes. 1999). Fermi (1994) proposed that women undergoing hysterectomy for malignant conditions show different psychological behaviour than those for benign conditions.

Sexuality may be affected by the type of surgery performed as proposed by Stockman, (1995). The scar left by hysterectomy could also affect body image and hence sexuality also.(Bernhard,1992). On the contrary, Gayles et al, (1999) could not find dependence on the type of surgery and sexuality. They observed that the behaviour of the partner influenced the sexual desire of the women greatly. Hence it is concluded that further research is essential in this respect.

Bernhard (1992) reported that the sexual partners of these women have less understanding about the surgical aspects and its effects on sexual activity. He proposed that there is a necessity to change the attitude and beliefs of the men as well as the community in this aspect. Stockman (1995) formulated the screening to be done for these patients preoperatively to identify the potential high risk factors. They are

multiple previous surgeries, history of or current psychiatric disorders, chronic pelvic pain and multiple indicators for the surgery.

Hamilton (1999) discussing the various physiological effects of hysterectomy, explained that the decrease in estrogen levels caused by the surgery leads to atrophic vaginitis resulting in sexual difficulties including dyspareunia. (Thranov and Klee, 1994). According to Lalos and Lalos (1996) hysterectomy develops vasomotor symptoms which may increase the rate of incontinence. This condition is highly distressing and embarrassing and may result in adverse effects on sexual functioning.

Kew et al (2002) feels that information regarding psychosexual morbidity in endometrial and ovarian cancer patients is lacking.. Many studies are focused on cervical cancer and then on pre invasive and invasive vulvar lesions.

Apart from the actual surgical procedure, the adjuvant therapies offered for gynecological malignancies also have an impact on physical and psychological aspects of the patient who experience secondary trauma due to the therapies.

The side effects of chemotherapy like nausea, vomiting, constipation, altered sense of taste and smell, mucositis, diarrhea and weight alterations decrease the desire for as well as the frequency of sexual actions. Apart from these, alopecia and loss of pubic hair also lead to uncomfortable and distressing feelings and reduced interest in sexuality. (Shover,1997). According to Spence (1997) these also cause psychological morbidity.

Pelvic radiotherapy irritates the intestinal lining which results in changes in bowel habits and a feeling of fatigue. These factors invariably lead to reduced sexuality and loss in libido. (Auchincloss, 1991). Both external beam radiotherapy and implants cause physiological changes in women. These resulting in vaginal epithelial damage finally lead to vascular fibrosis and stenosis. Sexual dysfunction, dyspareunia, pain during examination of the pelvis, gonadal toxicity and finally infertility are listed as the long term complications of these therapeutic modalities.

Coping and Self-esteem:

Drummond and Field (1984) reported that hysterectomy lowers self esteem particularly in those patients who have depression. Webb et al (1986) stressed the need for social support in these patients which plays an important role in coping. Cabson (2010) reported that after

hysterectomies which were performed for benign reasons the women showed increased socialization. He attributed this finding to more energy and an increased urge the women acquire for contacting friends and relatives after the surgery when their symptoms are alleviated. Ferroni and Drebe (1996) emphasized the need for positive support by the husbands. He mentioned that this support leads to restarting their sex lives earlier than those who do not receive such a support.

After hysterectomy, the loss of the uterus has been shown to decrease sexual pleasure and interest. According to Dinnerstein et al (1977) 37% of the women after hysterectomy showed decreased interest in sexual relationships. In contrary, Humphries (1980) reported that no change was felt by many womenCooper et al (1978) measured psychosocial variables at four points of time in the first year following hysterectomy performed for benign reasons. He estimated that anxiety, depression and hostility did not vary significantly at all four times measured. Self esteem scores showed values of 0 to 75 where negative impact is depicted by the high scores. Though gynecological cancers have been reported to be the second most common cancers in women, psychological studies on these patients are lacking.

Quality of Life:

Jawor et al in 2001 reported lowered self esteem and changes in QOL in patients undergoing hysterectomy.

Carter et al (2010) studied the emotional, sexual and quality of life of hysterectomy patients who underwent the surgery for early stage cervical cancer. He reported that quality of life, mood, distress, and sexual functioning did not change significantly with the type of surgery performed

SEXUAL DYSFUNCTION

The sexual response after oophorectomy and hysterectomy was studied by Dennerstein and Wood in 1997 who reported that one third of the patients showed deterioration of sexual dysfunctioning. Vincent et al (1975) reported 29% and 33% of radiation and hysterectomy patients respectively reported sexual difficulties.

SEXUAL FUNCTIONING AMONG BREAST CA,NCER GYNECOLOGICAL CANCER AND HEALTHY WOMEN

Silverberg (1984) reported that breast and gynecological cancer women are at a high risk for sexual problems. These two sites combined form 44% of female cancers diagnosed in a year. Extensive studies have

been conducted on psychological outcomes in breast cancer patients. Most of these studies have estimated the overall sexual disruption, decreased intercourse frequency, difficulties with orgasm from 21% to 39% in retrospective manner. (Silberfarb et al, 1980). Though gynecological cancers have been reported to the second most common cancers in women, psychological studies on these patients are lacking.

Vincent et al (1975) reported 29% and 33% of radiation and hysterectomy patients respectively reported sexual difficulties. Body image and marital adjustment are relevant areas common for both breast and gynecological cancer patients. Hysterectomy or pelvic irradiation may not result in body image changes but disruption in body image and quality of life are noted in hysterectomy patients also. (Daly,1978, Roeske, 1978)

Both physical and physiological mechanisms are affected negatively. Maas et al (2002) elaborated the genital problems in gynecological cancer patients after hysterectomy which includes, difficulties in lubrication, decrease in elasticity and length of vagina and absence of genital swelling.

Shover et al (1989) and Wejmer et al (1991) reported that adjuvant therapy offered postoperatively also results in sexual dysfunctions.

In the restrospective analysis it has been found that diminshed or competely disrupted sexuality ranged from 6 mto 19 % in patients undergoing radical hysterectomy and from 44% to 79% for the patients receiving radiotherapy as well. They are the first to indicate that there is specific pattern of sexual difficulties in patients diagnosed to have cancer and offered radical gynecologic treatment. They suggest that sexual activity including intercourse may be maintained after vaginal reconstruction in these patients but other sexual difficulties remain.

AIM & OBJECTIVES

AIM OF THE STUDY

To assess the disturbances in body image, psychiatric morbidity and their effects on the quality of life in post–mastectomy breast cancer patients and compare the above variables with post–hysterectomy uterine cancer patients.

OBJECTIVES:

1. To assess and compare the disturbances in body image and concept of self in post-mastectomy and post-hysterectomy patients.
2. To assess and compare the presence and nature of psychiatric morbidity in both the groups.
3. To assess and compare the quality of life in both the groups.
4. To assess the possible correlation between body image disturbances, psychiatric morbidity and the quality of life in both the groups.
5. To assess the possible correlation between socio demographic data and clinical characteristics of the primary illness and the above mentioned variables (Quality of life, Body image disturbances and Psychiatric morbidity) in both the groups.

NULL HYPOTHESES

1. There is no significant difference in the disturbance in body image and concept of self between the study and control groups.
2. There is no significant difference in psychiatric morbidity between the groups.
3. There is no significant difference in the quality of life between the groups.
4. There is no significant relation between body image disturbances, psychiatric morbidity and quality of life in both the groups.
5. There is no significant relation between socio demographic profile, clinical characteristic and body image disturbances, psychiatric morbidity and quality of life in both the groups.

MATERIALS AND METHODS

This is an Observational Cross Sectional study conducted at Rajiv Gandhi Government General Hospital, Chennai and the Institute of Obstetrics and Gynaecology, Chennai. The study was approved by the Institutional Ethical Committee. It was conducted over a period of four months from August 2012 to November 2012. Subjects included two groups of patients attending the out patient and inpatient departments of medical, surgical and radiation oncology at Rajiv Gandhi Government General Hospital, Chennai and the department of Gynaecology at the Institute of Obstetrics and Gynaecology, Chennai. The first group included patients who had underwent mastectomy for breast malignancyy and the second group encompasses patients who had underwent hysterectomy for gynaecological malignancies. Subjects were selected based on the following inclusion and exclusion criteria.

INCLUSION CRITERIA:

1. Age : 35 – 65 years
2. Duration of 3 months to 1 year after the surgical procedure
3. Subjects who are willing and able to give consent

EXCLUSION CRITERIA:

1. H/O tumour recurrence or metastasis

2. H/O other medical, surgical or neurological illnesses.
3. H/O mental retardation
4. H/O previous psychiatric illnesses

After explaining the nature of the study, informed consent was obtained from the subjects. Both the subjects and the care givers were interviewed. Details of socio demographic profile and clinical features of the illness were obtained. Detailed history including past, personal and family history of psychiatric illness, malignancies was obtained. After general physical and systemic examination, a detailed mental status examination was done and the following scales were administered to both the groups.

52 patients who had underwent mastectomy were selected and among them, 40 were included in the study due to the following reasons: 5 had co morbid medical illness, 4 had metastasis , 1 had recurrence and 2 were not willing to give consent. 50 patients who had underwent hysterectomy were selected as the second group and among them, 40 were included in the study since 4 had co morbid medical illness, 3 had metastasis, 2 had previous history of psychiatric illness and 1 did not give consent. The following tools were administered.

TOOLS EMPLOYED :

1. Proforma for socio demographic data and clinical characteristics
2. MINI PLUS
3. Hamilton rating Scale for Depression – HAM D
4. Hamilton rating Scale for Anxiety – HAM A
5. European Organisation for Research and treatment Centre (EORTC) – Quality of Life Questionnaire – 30(QLQC - 30), Breast module – 23(BR 23), Endometrium module – 24(EN 24).
6. Multidimensional Body Self-Relations Questionnaire (Abbreviated Scale)(MBSRQ - AS)
7. Body Image Scale (BIS)

PROFORMA FOR SOCIO DEMOGRAPHIC DATA AND CLINICAL CHARACTERISTICS:

It includes – name, age, education, occupation, socioeconomic status, religion, address, marital status, family type, no of children, duration of illness, diagnosis, staging, complications of the disease, treatment modalities and complications, drug compliance, psychological reactions. Past h/o mental illness, medical illness and treatment, suicidal attempts, menstrual h/o, marital h/o, substance abuse, family h/o psychiatric illness and malignancies.

MINI PLUS (MINI INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW):

It was developed as a brief structured interview for major Axis I psychiatric disorders based on DSM IV and ICD 10. Validation and Reliability studies done comparing MINI to SCID – P for DSM – IV and CIDI developed by WHO show high validity and reliability scores. It requires a shorter duration of time(15 mins) compared to other scales. The M.I.N.I. Plus is divided into modules identified by letters, each corresponding to a diagnostic category. The clinician should be sure that each dimension of the question is taken into account by the patient (for example, time frame, frequency, severity, and/or alternatives).

Symptoms better accounted for by an organic cause or by the use of alcohol or drugs should not be coded positive in the M.I.N.I. The M.I.N.I. Plus has questions that investigate these issues

HAMILTON RATING SCALE FOR DEPRESSION :

This is a widely used scale, developed by Dr. Max Hamilton to assess the symptoms of depression before , during and after treatment.. This is an observer rated scale consisting of 17 to 21 items. The items are either rated from 0 (none/absent) to 4 (most severe) or from 0 (none/absent) to 2 (severe) based on the items. Ratings are made on the basis of clinical interview and from any available information from the nursing staff or family members. It lays emphasis on the somatic

symptoms and it is more suitable for severe illness.it also depends on the clinical acumen of the rater. Excellent validation base and the ease of administration are the strengths of this scale. Inter rater reliability is 0.87 to 0.95. Severity of depression is scored as follows :

0 to 7 – normal

8 to 13 – mild

14 to 18 – moderate

19 to 22 – severe

>=23 – very severe

HAMILTON RATING SCALE FOR ANXIETY :

This scale developed by M. Hamilton, is one of the most widely used scales for anxiety. It consists of 14 items. Each item is rated on a scale from 0 (not present) to 4 (severe). It mainly focuses on the somatic symptoms than psychic symptoms, relying mainly on patient's subjective perspective. This scale is mainly used to assess the course of the symptoms and the response to treatment. This is a brief scale, easy to administer and widely accepted. These form the strengths of this scale. Limitations include excessive focus on somatic symptoms alone than other symptoms of anxiety ; relying on patient's subjective experience excessively and lack of generalisation.

Severity is scored as follows:

<17 – mild

18- 24 – mild to moderate

25 – 30 – moderate to severe

>= 31 – very severe

EUROPEAN ORGANISATION FOR RESEARCH AND TREATMENT CENTRE–QUALITY OF LIFE QUESTIONNAIRE:

EORTC QLQ C30 consists of 30 items including five functional scales (physical, role, emotional, social and cognitive) and nine symptom scales with one global health scale. The supplementary modules BR23 and EN 24 consists of 23 and 24 items respectively for breast and gynaecological malignancies. After getting information from the subjects, raw scores are calculated and then transferred to 0 – 100 scales. Higher score on any subscale indicates higher level of functioning. In case of symptom scales, the higher scores imply higher level of symptoms which indicate worse quality of life. It is an Internationally validated scale for worldwide usage.

BODY IMAGE SCALE:

It is a 10 item scale developed by EORTC group to assess body image in cancer patients. Validation of this scale was done by Hopwood et al in 2000. The 10 test items comprise “affective items (e.g. feeling feminine, feeling attractive), behavioural items, (e.g. find it hard to look

at self naked, avoid people because of appearance), and cognitive items (e.g. satisfied with appearance, or with scar)".

The four options for rating body image changes were selected to be consistent with current QL measures, namely ``not at all" (score 0), ``a little" (score 1), ``quite a bit" (score 2) and ``very much" (score 3). The 10 item scores were then summed to produce overall summary score for each patient, ranging from 0 to 30. Zero scores represented no symptom/distress and higher scores represented increasing symptoms/distress. This is a self reported questionnaire.

MULTIDIMENSIONAL BODY SELF RELATIONS QUESTIONNAIRE

The Multidimensional Body-Self Relations Questionnaire (MBSRQ) is a 69-item self-report inventory for the assessment of self-attitudinal aspects of the body-image construct. An initial version of this instrument in 1983 contained 294 items and was termed the BSRQ. Subsequent versions eliminated or replaced items on the basis of rational/conceptual and psychometric criteria. The MBSRQ is intended for use with adults and adolescents (15 years or older). The instrument is not appropriate for children. Most body-image researchers are principally interested in the appearance related subscales of the MBSRQ and wish to administer a shorter questionnaire that excludes the fitness and health

items. Accordingly, they may elect to use the 34-item MBSRQ-AS (MBSRQ-Appearance Scales) version of the instrument. The MBSRQ-AS includes the following subscales: “Appearance Evaluation, Appearance Orientation, Overweight Preoccupation, Self-Classified Weight, and the Body Area Satisfaction Scale. “The scale is rated from 0 to 100. Higher scores indicate better body image appraisal.

DATA ANALYSIS AND RESULTS

STATISTICAL ANALYSIS:

- Comparison of socio demographic data of post mastectomy and post hysterectomy groups : Chi square test
- Comparison of Body Image Disturbances, Psychiatric Morbidity and Quality of Life among both the groups ; Mann-Whitney U test
- To assess the relation between socio demographic profile, clinical correlates and of Body Image Disturbances, Psychiatric Morbidity and Quality of Life in both the groups : Spearman's correlation.
- To assess the relation between body image disturbances, psychiatric morbidity and quality of life among both the groups.: Spearman's correlation

Table : 1 **Frequency distribution of socio demographic data in both Groups**

	POST MASTECTOMY PTS		POST HYSTERECTOMY PTS	
	N	Percent	N	percent
AGE: 35-45 45-55 55-65	13 14 13	32.5 35.0 32.5	11 15 14	27.5 37.5 35.0
EDUCATION:illiterate Primary SSLC HSC	14 18 6 2	35.0 45.0 15.0 5.0	15 20 5 0	37.5 50.0 12.5 0
OCCUPATION:unemployed Nonprofessional	18 22	45.0 55.0	22 18	55.0 45.0
SES:LSES MSES	29 11	72.5 27.5	27 13	67.5 32.5
MARITAL STATUS:unmarried Married Separated Widowed	4 25 1 10	10.0 62.5 2.5 25.0	6 24 1 9	15.0 60.0 2.5 22.5
RESIDENCE: rural Semiurban Urban	14 16 10	35.0 40.0 25.0	16 14 10	40.0 35.0 25.0
RELIGION:Hinduism Islam Christianity	24 6 10	60.0 15.0 25.0	25 7 8	62.5 17.5 20.0
PARITY: nulliparous Parous-1-2 ≥3	9 22 9	22.5 55.0 22.5	8 24 8	20.0 60.0 20.0

In both the groups, the mean age group was 50 years (45-55 years). 35.0% and 37.5% belonged to this age group in post-mastectomy and post-hysterectomy groups respectively. Majority of them belonged to low socioeconomic status (Mastectomy n-29, 72.5%; Hysterectomy n-27, 67.5%). 62.5% (n=25) in mastectomy group and 60% (n=24) in

hysterectomy group were married and living with their husbands. Majority of them were Hindus (n=24; 60% in group 1 and n=25; 62.5% in group 2). 9 of women (22.5%0 in mastectomy group and 8 (20%) in hysterectomy group were nulliparous.

Table : 2 **Comparison of socio demographic data among the groups**

	POST MASTECTOMY PTS	POST HYSTRECTOMY PTS	CHI SQUARE
	N	N	
AGE: 35-45 45-55 55-65	13 14 13	11 15 14	0.888
EDUCATION:illiterate Primary SSLC HSC	14 18 6 2	15 20 5 0	0.526
OCCUPATION: unemployed nonprofessional	18 22	22 18	0.371
SES:LSES MSES	29 11	27 13	0.626
MARITAL STATUS:unmarried Married Separated Widow	4 25 1 10	6 24 1 9	0.925
RESIDENCE: rural Semiurban Urban	14 16 10	16 14 10	0.875
RELIGION:Hinduism Islam Christianity	24 6 10	25 7 8	0.852
PARITY: nulliparous Parous-1-2 ≥3	9 22 9	8 24 8	0.903

No significance seen in chi square testing

Comparison between the two groups on age, education, occupation, address, socioeconomic status, religion and parity showed no significant difference between the groups, thereby showing the groups are comparable on these parameters.

Table :3 Frequency of illness correlates in post mastectomy group

	POST MASTECTOMY PTS	
	N	Percent
Duration since surgery: 3-6m 6-12m	20 20	50 50
Diagnosis: lobular Infiltrating lobular Ductal Infiltrating ductal	10 4 21 5	25.0 10.0 52.5 12.5
Stage: I II III	5 19 16	12.5 47.5 40.0
Treatment: surgery+CT surgery+CT+RT sugery+RT sugery+CT+tamoxifen	13 13 1 13	32.5 32.5 2.5 32.5
Neoadjuvant CT: yes No	19 21	47.5 52.5

50% (n=20) of patients were assessed in 3-6 months after mastectomy and in 6-12 months after hysterectomy. The most common histological type of breast cancer operated belonged to 'Ductal carcinoma' (n=21; 52.5%). The common stage of the disease was Stage II (n=19; 47.5%). 13 patients (32.5%) received surgery (Modified radical mastectomy) + chemotherapy. The same number of patients received

Surgery with chemo and radiotherapies and Surgery with chemotherapy and tamoxifen therapy. One woman received surgery and post radiotherapy. Neoadjuvant chemotherapy was given to 19 patients (47.5%).

Table: 4 Frequency of illness correlates in post hysterectomy group

	POST HYSTRECTOMY PTS	
	N	percent
Duration since surgery: 3-6m 6-12m	22 18	55.0 45.0
Diagnosis: cervical Endometrial	20 20	50.0 50.0
Stage: Ia Ib Ic IIa IIb	17 7 4 10 2	42.5 17.5 10.0 25.0 5.0
Treatment: TAH + BSO TAH+BSO+RT TAH + BSO + CT	5 30 5	12.5 75.0 12.5
Neoadjuvant RT: yes No	14 26	35.0 65.0

22 patients (55%) were assessed in a period of 3-6 months post operatively and 18 persons (45%) within 6-12 months. 50% (n=20) each were diagnosed with cervical and endometrial cancers. Majority of them were in Stage Ia (n=17; 42.5%). All patients underwent Total Abdominal Hysterectomy (TAH) with bilateral salpingo-oophorectomy. Post operative radiotherapy was given to 30 patients (75%) and 5 patients

(12.5%) received adjuvant chemotherapy. Neoadjuvant radiotherapy was given to 14 patients. 935.0%)

Table : 5 Frequency of clinical correlates in both groups

	POST MASTECTOMY PTS		POST HYSTRECTOMY PTS	
	N	Percent	N	Percent
PERCEPTION: positive Negative Neutral	10 17 13	25.0 42.5 32.5	15 16 9	37.5 40.0 22.5
FAMILY H/o : psych illness alcohol abuse nil	13 10 17	32.5 25.0 42.5	15 9 16	37.5 22.5 40.0
FAMILY H/O MALIGNANCY: yes No	11 29	27.5 72.5	15 25	37.5 62.5
MENOPAUSE: yes No	23 17	57.5 42.5	27 13	62.5 37.5
SUBSTANCE ABUSE: yes No	4 36	10.0 90.0	5 35	12.5 87.5
SEXUAL DYSFUNCTION: yes No Not active	15 9 16	37.5 22.5 40.0	17 8 15	42.5 20.0 37.5

Perception and attitude towards illness: Majority of them, n=17, (42.5%) and n=16 (40.0%) in groups 1 and 2 respectively had negative attitudes towards the disease and prognosis.

Family history of mental illness including alcohol abuse was present in 32.5% (n=13) in the mastectomy group and 22.5% (n=9) in the hysterectomy group.

Family history of breast or gynecological malignancy was noted in 27.5% (n=11) of group e and 37.5% (n=15) of group 2 patients. 57.5% (n=23) in group 1 and 62.5% (n=27) in group 2 attained menopause.

37.5% (n=15) in the mastectomy group and 42.5% (n=17) in the hysterectomy group experienced sexual dysfunction. 40% (n=16) in group 1 and 37.5% (n=15) in group 2 were not sexually active.

Table : 6 Comparison of quality of life in both groups

	Functional scale 1		Symptom scale 1		Global health status	
	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Mean	372.12	342.46	208.89	221.96	49.55	46.07
Median	383.10	341.80	208.70	200.00	50.00	50.00
Standard Deviation	41.35	44.37	66.23	73.82	13.37	13.21
Mann-Whitney U	524.500		718.500		692.000	
Wilcoxon W	1344.500		1538.500		1512.000	
Z	-2.652		-.785		-1.079	
Asymp. Sig. (2-tailed)	**.008****		.433		.281	

a. Grouping Variable: Cancer *p <0.05 **p <0.01

Comparison of quality of life between the two groups showed significant difference in functional scale -1($p < 0.01$), implying post hysterectomy patients had lesser scores on functional scales on the whole and thus decreased functioning in all domains – physical, emotional, social, cognitive and role functions.

Table : 7 Comparison of psychiatric morbidity and body image disturbances in both the groups

	HAM D		HAM A		BIS	
	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Mean	11.48	12.95	8.68	9.25	9.90	7.98
Median	11.00	12.50	8.00	8.00	10.00	7.00
Std Deviation	5.97	4.99	4.27	3.56	4.76	3.35
Mann-Whitney U	634.000		704.500		568.000	
Wilcoxon W	1454.000		1524.500		1388.000	
Z	-1.602		-.925		-2.246	
Asymp. Sig. (2-tailed)	.109		.355		.025*	

a. Grouping Variable: Cancer *p <0.05 **p <0.01

Comparison of depression, anxiety and body image disturbances among the two groups showed significant difference in body image disturbance between the groups but no difference in anxiety and depression scales. The scores on body image disturbances were lower in post mastectomy patients and reached significant levels. ($p < 0.05$).

Table : 8 Comparison of multi dimensional body image in both groups

	Mastectomy mean	Mastectomy median	Mastectomy S.D	Hysterectomy mean	Hysterectomy median	Hysterectomy S.D
AE	2.57	2.71	0.67	2.35	2.28	0.56
AO	2.11	2.00	0.48	2.47	2.21	0.71
BASS	2.93	2.78	0.34	2.72	2.78	0.41
OWP	1.92	1.75	0.61	2.69	3.00	0.63
SCW	3.07	3.00	0.91	3.51	3.50	0.61

	AE	AO	BASS	OWP	SCW
Mann – Whitney U	670.500	508.500	583.500	316.500	610.500
Wilcoxon W	1490.500	1328.500	1403.500	1136.500	1430.500
Z	-1.251	-2.817	-2.153	-4.699	-1.928
Asymp. Sig. (2-tailed)	.211	.005**	.031*	.000**	.054

*p <0.05 **p <0.01

The table shows significant scores on the domains of appearance orientation (p< 0.01), Body Area Satisfaction (p <0.05), Over Weight Preoccupation(p <0.01) and Self Classified Weight(p <0.05). These scores were significantly lower in post mastectomy groups implying decreased body image in all these domains when compared to post hysterectomy group.

Correlation of age with depression, anxiety, body image and global quality of life

Table : 9 Post mastectomy group

		HAM D	HAM A	BIS	QL2
Spearman's rho AGE	Correlation Coefficient	-.009	-.112	-.268	.000
	Sig. (2-tailed)	.954	.491	.094	1.000
	N	40	40	40	40

*p <0.05 **p <0.01

The above table shows no significant association between age and depression, anxiety, body image disturbance and quality of life.

Table : 10 Post hysterectomy group

		HAM D	HAM A	BIS	QL2
Spearman's rho AGE	Correlation Coefficient	-.390*	-.114	-.618**	.197
	Sig. (2-tailed)	.013*	.483	.000**	.224
	N	40	40	40	40

*p <0.05 **p <0.01

The above table shows significant association between age and depression (p<0.05) and body image disturbance (p <0.01) in post hysterectomy group. There was no significant association of age with anxiety and quality of life.

Correlation of educational status with anxiety, depression, body image and global quality of life

Table : 11 Post mastectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	EDUCATION	Correlation Coefficient	.004	.058	.137	.031
		Sig. (2-tailed)	.978	.724	398	.847
		N	40	40	40	40

*p <0.05 **p <0.01

There was no significant association between the educational status and anxiety, depression, body image and global quality of life scores.

Table : 12 Post hysterectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	EDU	Correlation Coefficient	.129	.044	.320*	-.025
		Sig. (2-tailed)	.428	.789	.044	.878
		N	40	40	40	40

*p <0.05 **p <0.01

There is significant correlation between educational status and body image disturbances in post hysterectomy group, implying that educated women had more body image disturbances. No significant

association is found with depression, anxiety and global quality of life in this group.

Correlation of occupation with depression, anxiety, body image and global quality of life

Table : 13 Post mastectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	OCCU	Correlation Coefficient	.085	.186	.240	.014
		Sig. (2-tailed)	.600	.251	.135	.934
		N	40	40	40	40

*p <0.05 **p <0.01

There was no significant association between occupation and depression, anxiety, body image and global quality of life in post mastectomy group.

Table : 14 Post hysterectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	OCCU	Correlation Coefficient	-.111	-.123	-.031	.118
		Sig. (2-tailed)	.494	.449	.849	.470
		N	40	40	40	40

*p <0.05 **p <0.01

There is no significant correlation between occupation and depression, anxiety, body image disturbance and quality of life.

Correlation of socio economic status with depression, anxiety, body image and global quality of life

Table :15 Post mastectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	SES	Correlation Coefficient	.100	.078	.114	-.118
		Sig. (2-tailed)	.539	.632	.482	.466
		N	40	40	40	40

*p <0.05 **p <0.01

Correlation of socioeconomic status with depression, anxiety, body image disturbance and quality of life shows no significant association in post mastectomy group.

Table : 16 Post hysterectomy group

Spearman ‘s rho			HAM D	HAM A	BIS	QL2	SES
	SES	Correlation Coefficient	.019	.112	.266	-.012	1.000
		Sig. (2-tailed)	.910	.491	.098	.941	.
		N	40	40	40	40	40

*p <0.05 **p <0.01

Correlation of socioeconomic status with depression, anxiety, body image disturbance and quality of life shows no significant association in post hysterectomy group.

Correlation of stage of the disease with anxiety, depression, body image and global quality of life

Table : 17 Post mastectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	STAGE	Correlation Coefficient	.278	.269	.118	-.159
		Sig. (2-tailed)	.083	.093	.468	.326
		N	40	40	40	40

*p <0.05 **p <0.01

In this study, there was no significant association between stage of the disease and depression, anxiety, body image and global quality of life in post mastectomy group .

Table : 18 Post hysterectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	STAGE	Correlation Coefficient	.009	-.022	-.160	-.204
		Sig. (2-tailed)	.957	.892	.323	.208
		N	40	40	40	40

*p <0.05 **p <0.01

In this study, there was no significant association between stage of the disease and depression, anxiety, body image and global quality of life

Correlation of treatment modality with anxiety, depression, body image and global quality of life

Table : 19 Post mastectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	TREATMT	Correlation Coefficient	-.058	-.126	-.151	.294
		Sig. (2-tailed)	.721	.440	.353	.066
		N	40	40	40	40

*p <0.05 **p <0.01

There was no significant association between the treatment modality and anxiety, depression, body image and global quality of life scores in post mastectomy group.

Table : 20 Post hysterectomy group

			HAM D	HAM A	BIS	QL2
Spearman's rho	TREATMENT	Correlation Coefficient	.105	.076	.162	-.235
		Sig. (2-tailed)	.517	.640	.318	.145
		N	40	40	40	40

*p <0.05 **p <0.01

There was no significant association between the treatment modality and anxiety, depression, body image and global quality of life scores in post hysterectomy group.

Correlation of body image disturbances with anxiety and depression

Table : 21 Post mastectomy group

		HAM D	HAM A
BIS	Correlation Coefficient	.550**	.662**
	Sig. (2-tailed)	.000**	.000**
	N	40	40

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Body image disturbance is found to have significant association with depression (HAM D $p < 0.01$) and anxiety(HAM A – $p < 0.01$)

Table : 22 Post hysterectomy group

		HAM D	HAM A
BIS	Correlation Coefficient	.457**	.346*
	Sig. (2-tailed)	.003**	.029*
	N	40	40

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

Body image disturbance is found to have significant association with depression (HAM D – $p < 0.01$) and anxiety(HAM A – $p < 0.05$).

Comparison of body image disturbances with quality of life

Table : 23 Post mastectomy group.

		QOL	FS 1	SS 1	FS 2	SS2
B I S	Correlation Coefficient	-.349*	-.413**	.418**	-.525**	-.097
	Sig. (2-tailed)	.027*	.008**	.007**	.000**	.553
	N	40	40	40	40	40

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

The scores on Body Image Scale shows significant negative correlation with Global Health Status, ($p < 0.05$) , Functional Scale 1,general($p < 0.01$) and Functional Scale 2, breast specific($p<0.01$), and significant positive correlation with Symptom Scale 1,general($p < 0.01$).

Table : 24 Post hysterectomy group

		QL2	FS1-T	SS1-T	FS2-T	SS2-T
Spearman's rho BIS	Correlation Coefficient	-.367*	-.579**	.230	-.326*	.117
	Sig. (2-tailed)	.020*	.000**	.153	.040*	.470
	N	40	40	40	40	40

*p <0.05 **p <0.01

The scores on Body Image Scale is found to have negative correlation with Global health Status and functional scales: positive correlations with symptom scales , with significant values in Global Health Status($p<0.05$), Functional scale 1, general ($p <0.01$), functional scale 2, endometrium specific ($p<0.05$).

Correlation of body image disturbances with functional domains

Table : 25 Post mastectomy group

		PF2	RF2	EF	CF	SF
BIS	Correlation Coefficient	-.113	-.026	-.309	-.305	.468**
	Sig. (2-tailed)	.489	.872	.052	.056	.002**
	N	40	40	40	40	40

. *p <0.05 **p <0.01

The above table shows negative correlation between body image disturbances and specific functional domains namely physical functioning, role functioning, emotional functioning, cognitive functioning and social functioning with significant values in social functioning ($p <0.01$)

Table : 26 Post hysterectomy group

		PF2	RF2	EF	CF	SF
BIS	Correlation Coefficient	-.339*	-.343*	-.342*	-.379*	-.260
	Sig. (2-tailed)	.032*	.030*	.031*	.016*	.106
	N	40	40	40	40	40

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

The scores on Body Image Scale is found to have negative correlation with specific functional domains - physical, role, emotional, cognitive and social; with values reaching statistical significance in physical functioning ($p < 0.05$), role functioning ($p < 0.05$), emotional functioning($p < 0.05$) and cognitive functioning($p < 0.05$) .

Correlation of depression with quality of life –

Table : 27 Post mastectomy group

		QL2	FS1-T	SS1-T	FS2-T	SS2-T
HAMD	Correlation Coefficient	-.412**	-.205	.434**	-.428**	.100
	Sig. (2-tailed)	.008**	.204	.005**	.006**	.538
	N	40	40	40	40	40

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The scores on HAM D shows negative correlation with global health status and functional scales and positive correlation with symptom scales with significant values in global health status($p < 0.01$), functional subscale 2, breast specific ($p < 0.01$) and symptom scale 1, general($p < 0.01$).

Table : 28 Post hysterectomy group

			QL2	FS1-T	SS1-T	FS2-T	SS2-T
Spearman's rho	HAM D	Correlation Coefficient	-.350*	-.335*	.237	-.071	.218
		Sig. (2-tailed)	.027*	.035*	.141	.664	.176
		N	40	40	40	40	40

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The above table shows that the scores on HAM D is found to have negative correlation with Global health Status and functional scales: positive correlations with symptom scales , with significant values in Global Health Status($p < 0.05$), Functional scale 1, general ($p < 0.05$).

Correlation of depression with functional domains

Table : 29 Post mastectomy group

			PF2	RF2	EF	CF	SF
Spearman's rho	HAM D	Correlation Coefficient	-.042	-.026	-.123	-.349*	-.157
		Sig. (2-tailed)	.797	.873	.448	.027*	.332
		N	40	40	40	40	40

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Scores on HAM D shows negative correlation of depressive scores with specific functional domains with significant values in cognitive functioning ($p<0.05$)

Table : 30 Post hysterectomy group

			PF2	RF2	EF	CF	SF
Spearman's rho	HAM D	Correlation Coefficient	-.010	-.047	-.247	-.267	-.091
		Sig. (2-tailed)	.953	.774	.125	.096	.575
		N	40	40	40	40	40

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The scores on depression scales are found to have negative correlation with specific functional domains - physical, role, emotional, cognitive

and social; with none of the values reaching statistical significance in them.

Correlation of anxiety with quality of life

Table : 31 post mastectomy group

		QL2	FS 1	SS 1	FS 2	SS 2
ANXIETY	Correlation Coefficient	.729**	-.482**	.547**	-.428**	-.012
	Sig. (2-tailed)	.000**	.002**	.000**	.006**	.940
	N	40	40	40	40	40

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The above table shows HAM A scores to have negative correlation with negative correlation with global health status and functional scales and positive correlation with symptom scale 1, with significant values in global health status($p < 0.01$), functional subscale general($p < 0.01$), breast specific ($p < 0.01$) and symptom scale 1, general ($p < 0.01$).

Table : 32 Post hysterectomy group

		QL2	FS1-T	SS1-T	FS2-T	SS2-T
HAM A	Correlation Coefficient	-.271	-.252	-.021	-.074	-.003
	Sig. (2-tailed)	.091	.116	.900	.649	.987
	N	40	40	40	40	40

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

There is no statistically significant correlation between Anxiety scores and the quality of life subscales, namely Global health Status, functional scales 1& 2 and symptom scales 1 & 2.

Correlation of anxiety with functional domains

Table : 33 Post mastectomy group

		PF2	RF2	EF	CF	SF
HAM A	Correlation Coefficient	-.325*	-.185	-.302	-.461**	-.267
	Sig. (2-tailed)	.041	.253	.059	.003**	.096
	N	40	40	40	40	40

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The above table shows negative correlation between anxiety and functional domains with significant values in Physical functioning and cognitive functioning.

Table : 34 Post hysterectomy group

		PF2	RF2	EF	CF	SF
HAM A	Correlation Coefficient	-.204	-.328*	-.225	-.068	.016
	Sig. (2-tailed)	.207	.039*	.163	.677	.922
	N	40	40	40	40	40

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Scores in HAM A (Anxiety Scale) shows significant negative correlation with role functioning ($p < 0.05$) in post hysterectomy group.

DISCUSSION

Psychiatric morbidity is one of the major areas of concern in patients with cancer. But it is often underdiagnosed and under treated. Treatment protocol generally is based on management of the disease per se and its complications. Patient's productivity and efficient functioning is one area which is being overlooked, especially in developing countries. Also there is decreased awareness among general population about the perception of the disease and treatment modalities. Apart from the disease, the treatment modalities affect the quality of life in cancer patients. There is a common assumption among common people that surgery is "THE" most effective treatment and is considered as the pinnacle of all treatment modalities. It is held in awe by people and is dreaded the most, however minor it may be , the effect of this single mode of treatment alone is enormous and combined with other treatment modalities, which is inevitable for malignancy nowadays, there is definite impairment in psychological functioning of the patients.

This study was conducted to elucidate and compare the effects of surgery of the two common and specific feminine cancers on the body image disturbances, psychiatric morbidity and quality of life. Few results quoted in previous studies were replicated in this study.

Body image disturbances were assessed in both the groups using Body Image Scale(BIS) and Multidimensional Body Self Relations Questionnaire – Appearance Scales(MBSRQ- AS). They were found to be higher in both the groups. Comparing the means of two groups revealed significant difference between the groups($p<0.05$, indicating that body image disturbances were higher in post mastectomy group (median – 10.00) than post hysterectomy group(median – 7.00).

A study by Keskin et al, 2011, on "depression, body image, sexual problems and spouse relationships" on 94 patients, 42 who have undergone mastectomy and 52, hysterectomy revealed the mean BIS scores to be low in both the groups and was found to be lower in mastectomy group than hysterectomy group, but not upto significant levels.

Among the body image subscales, physical attractiveness was predominantly negatively affected in mastectomy group. (Alicikus et al 2009). In this study, "feeling less feminine and less whole, dissatisfaction with body and appearance of scar " were predominant in mastectomy group; while "feeling less feminine and dissatisfaction with the appearance of the scar" was reported more in hysterectomy group. Avis et al 2004, Fobair et al 2006 reported that a woman's perception of loss

directly correlates with the negative body image following both the surgeries.

A study conducted by Akkaya et al (2011) on the impact of body image on (QOL) quality of life and mood in mastectomised patients and amputees concluded that though mastectomy was not related to loss of physical function when compared to leg amputees, the distortion of body image was far worse than the latter group and this had a direct negative impact on Quality Of Life.

This supports the view that body image and concept of life depends on internal factors than external factors, as explained by the author. This could be also be a possible explanation for no significant differences among mastectomy and hysterectomy patients in some studies. The presence of significant difference in this study could be due to other factors such as age and parity which are important predictors of body image disturbances.(Harcourt et al 2003). In this study there is significant negative correlation between age and depression(0.013) and body image disturbances(0.000).

There was no association in both the groups in context to the socio demographic variables except for educational status in post hysterectomy group in this study. Educational status was found to have significant positive correlation with body image scores($p<0.05$),

indicating greater impairment in educated group. This was in contradiction to the previous study by Alicikus et al, 2009 in which educational status was found to influence treatment decision making and was reported to be an important predictor for stress; less formal education implying poorer psychological adjustment. It directly affected the cognitive appraisal of the new stressful situation.

There was no significant association between clinical correlates(like the stage of the disease, treatment modalities, sexual dysfunction, menopausal states and family history of psychiatric disorders and malignancies) and body image disturbances in both the groups.

In a study by Shoma et al 2009 in breast cancer patients assessing the body image and decision making for the type of surgery, it was reported that post menopausal women had lesser body image distress in conservation surgery group. Alicikus et al 2009 discussed the relationship between treatment modalities and body image disturbances and sexual dysfunctions. He reported that about 50% developed these symptoms following surgery and another 24, after the initiation of Chemotherapy. This stresses on the need for timely intervention. It is also essential to include quality of life as one of the baseline assessments for all patients. A review conducted on this issue revealed

that the most significant factor affecting body image following adjuvant chemotherapy was ovarian damage (Biner et al,. 1996).

Using Multidimensional Body Self Relations Questionnaire – Appearance Scales(MBSRQ- AS), significant differences were found in the domains of Appearance Orientation, Body Area Satisfaction Scale and Overweight preoccupation among the groups with lesser appraisal of body image in post mastectomy patients than the other group. This further confirms significantly higher body image disturbances in this group.

Psychiatric morbidity was present in 57.5%(n = 23) and 55.0%(n = 22) in mastectomy and hysterectomy groups. Among them, in mastectomy group, 34.8%(n=8) had depression, 21.7%(n=5) had anxiety, 34.8%(n= 8) had mixed anxiety and depression and 8.7%(n= 2) had adjustment disorder. In hysterectomy group, 40.9%(n=9) had depression, 18.2%(n=4) had anxiety,27.3%(n=6) had mixed anxiety and depression and 13.6%(n=3) had adjustment disorder. There was no significant difference in psychiatric morbidity (depression and anxiety scores) among both the groups. Anxiety and depression along with impaired physical and sexual functioning followed treatment with surgery. (Ranneker et al, 1952 , Bard et al , 1955).

It was reported by Shaheenshah et al in 2007 that young women undergoing hysterectomy as a form of cancer treatment exhibited higher levels of anxiety and depression both before and after the surgery.

Rohan Dilip and Prakash Appaya (2010) studied the psychiatric disorders using PRIME-MD PHQ in gynecological cancer patients. They reported that psychiatric disorders were seen in 44% of them, the most common being mood disorders which was seen in 25.7%. 16.8% showed anxiety disorders. 34.4% showed major depression which was more common in cancer patients than their benign counterparts. The current study reported a higher incidence of psychiatric morbidity than this study.

In this study there was no significant correlation between socio demographic data and clinical correlates with psychiatric morbidity. One study by Dean (1987) reported relationship between surgical treatment and psychological distress. Chemotherapy was found to have better outcome in terms of psychiatric morbidity than mastectomy. Nowadays, chemotherapy is only given as an adjuvant to surgery.

Depression is found to be relevant in 11-50% of terminally ill patients (Joffe et al, 1986). 35-45% of cancer patients developed clinically significant psychiatric morbidity of which 68% comprised of adjustment disorders, 13% major affective disorder followed by organic mental disorders (4%), personality disorders (3%), anxiety disorders

(2%). (Dean, 1988, faibes et al, 1984). One study by Kudel et al (2008) showed that 17.4% of the women experienced the phantom breast syndrome even almost 6 years after mastectomy.

Sexual dysfunction is one area which is closely associated with body image and sexuality. It was present in 37.5%(n=15) in post mastectomy group and 42.5%(n= 17). Though it was higher in hysterectomy group, it did not attain significant levels.

According to Dizon 2009, 90% of women undergoing treatment for breast cancer experience sexual dysfunction. Ganz et al, 1998 reported that subjective sense of emotional well being was an important predictor of sexual dysfunction. After hysterectomy, the loss of the uterus has been shown to decrease sexual pleasure and interest. According to Dinnerstein et al (1977) 37% of the women after hysterectomy showed decreased interest in sexual relationships.

In contrary, Humphries (1980) reported that no change was felt by many women. Kruger et al (1979) found that sexual satisfaction is the best predictor of sexual status after hysterectomy.75% of the women undergoing hysterectomy for benign conditions expressed relief after the surgery and showed that their self concept was not changed adversely after hysterectomy. But that was not the state in malignant conditions in which the fear of the illness as well as the side effects of the adjuvant

therapies contribute more to sexual dysfunction. It was reported in a study , Keskin et al 2011 , that women with hysterectomy had higher levels sexual dysfunction, probably due to the physical effects of the surgery and radiotherapy. This was corroborated in another study by Bruner and Boyd, 1998. They benefit from behaviourally oriented therapies.

Quality of life was found to be impaired in both the groups, with hysterectomy patients having greater impairment in Global Health Status and Functional Scale 1(general) as measured by EORTC QLQ C30. In this there was significant difference in functional scale 1($p < 0.005$).

With the advancement of diagnostic and treatment facilities, it is expected the same could be said about the quality of life. But reality is that early detection and management implies that the patient survives long enough to experience the complications of the disease and treatment modalities. (Alicikus et al 2009). In his study(n= 112), “psychosexual and body image aspects of quality of life in Turkish breast cancer patients”, the author says that the aim of assessing quality of life is to understand and evaluate patients’ perspectives which differs significantly from one another and from the treating physician. The author also emphasis the need to take into account various factors – socio economic,

cultural, religious and educational background which affects a patient's quality of life.

In the present study, there was no significant association between Quality of life (QOL) and socio demographic profile and clinical correlates. This was in contradiction to previous studies which showed varied results.

Fatma et al 1997, studying the effects of different treatment modalities on quality of life in breast cancer patients, found no significant association between the menopausal status and the quality of life, but the age of the patient correlated negatively with impairment in functioning in all domains, especially in social interaction and disease/treatment related symptoms. It was also reported that higher the stage of the disease, greater the impairment in quality of living.

In the study by Saleha et al 2010, women younger than 50 yrs had better quality of living than older women. This was in contrast to the findings in body image disturbances in other studies where younger women had more disturbances. This indicates the complex interaction between these parameters. There was no significant association between education, socio economic and residential status with quality of life in this study.

Women who were employed had better quality of living, probably because of their functional independence, increased social interaction and better consciousness about their health status.(Pandey et al 2005).

Type of treatment and menopausal status has a significant effect on occurrence of psychosexual problems (Alicikus et al, 2009). These necessitate the importance of including QOL in baseline assessments for all patients, so that appropriate help and rehabilitation be provided to necessary patients.

Evaluating the relationship between Body image disturbances, psychiatric morbidity and Quality of life, the following results were noted in the present study.

Body image was found to be significantly positively associated with depression and anxiety scores. ($p<0.001$ in both groups). Keskin et al 2011 also noted significant positive correlation body image and depression. In a study conducted by Akkaya et al 2011, there was significant positive correlation between body image disturbances and level of depression and negative correlation with quality of life. Specifically, body image disturbances significantly affected physical functioning domain and not the emotional and social functioning domains.

BIS scores were significantly negatively associated with quality of life - Global health Status, Functional Scale 1(general) and 2(breast

specific), Symptom Scale 1 and specific domains – social functioning in mastectomy patients, while in hysterectomy group it has significant negative correlation with Global health Status, Functional Scale 1(general) and 2(breast specific) and in specific domains of physical, role, Emotional and Cognitive functioning.

Scores in depression scale were found to have significant negative correlation with quality of life - Global health Status, Functional Scale 2(breast specific), Symptom Scale 1 and specific domains – cognitive functioning in mastectomy patients, while in hysterectomy group it has significant negative correlation with Global health Status, Functional Scale 1(general), while no significant correlation was found in specific domains. The greater impairment in mastectomy group could be due to complex interaction between body image disturbances and depression on quality of life.

Anxiety scores were significantly negatively associated with quality of life - Global health Status, Functional Scale 1(general) and 2(breast specific), Symptom Scale 1 and specific domains – physical and cognitive functioning in mastectomy patients, while in hysterectomy group it had significant negative correlations with role functioning.

Saleha et al 2010, in their study on “assessment of quality of life in breast cancer patients using EORTC QLQ questionnaire”, investigated the association between the individual subscales and Global Health Status QOL along with socio demographic data in 200 patients. It was

found that patients had better scores on the social and role functioning subscales than emotional functioning subscale. Their scores on breast specific symptom scale(SS2) – “breast symptoms, arm symptoms, upset by hair loss” were high indicating lower quality of life in this domain.

Emotional functioning(p=0.002) and body image(p=0.011) showed significant positive correlation with global quality of life, while the symptom scale 2 showed significant negative correlation with the same.

This study compares the body image disturbances, psychiatric morbidity and quality of life in two of the most common cancers in women. This study highlights the fact that there are variations in these parameters though both the groups are comparable in various factors. Both the organs are gender specific and both denote feminity. But the psychological manifestation in the loss of these organs , though similar qualitatively, are different quantitatively. But on the whole, the study emphasises the need to evaluate psychological morbidity including body image disturbances, quality of life and personality in baseline assessment while formulating treatment plan.

It is possible to reduce morbidity and mortality to a significant extent when intervened at the right time. The awareness among treating physicians in other specialities enables prompt referrals to psychiatric services. Appropriate pharmacological and psychotherapeutic interventions can enhance the standard of living of the Cancer Survivors.

CONCLUSION

1. There are body image disturbances in post mastectomy and post hysterectomy cancer patients.
2. These disturbances are significantly higher in post mastectomy group when compared to post hysterectomy group.
3. Psychiatric morbidity (depression, anxiety, mixed anxiety and depression and adjustment disorders) is present in both the groups; but there is no significant difference between the two groups.
4. There is quality of life impairment- global and in specific domains in the two groups; but there is no significant difference between the two groups.
5. Body image disturbances are found to have significant relation with psychiatric morbidity and quality of life impairment in both the groups with differences observed in specific domains.
6. Psychiatric morbidity is found to have significant relation with quality of life impairment in both the groups with differences observed in specific domains.

7. There is significant positive correlation between educational status and body image disturbances in post hysterectomy patients.
8. There is no significant correlation between socio demographic profile, clinical correlates and body image disturbances , psychiatric morbidity and quality of life in both the groups.
9. There is significant negative correlation between age and depression and body image disturbances in post hysterectomy group.

LIMITATIONS

1. One of the limitations of this study is the smaller sample size in both the comparison groups.
2. Being a cross – Sectional study, one time psychological assessment of the cancer patients in the post operative scenario will not be sufficient for the long term diagnosis and treatment in these patients.
3. The study being a comparison between two groups, including a control population can improve the validity of the study.
4. Three of the scales used in this study are self administered questionnaires. As educational status was not included in the selection criteria, patients not having formal education were administered scales by the investigator. Two of the scales are not available in local language and not standardised to Indian population.
5. Randomisation could not be done as patients were being treated in separate hospitals.

FUTURE DIRECTIONS

1. The present study is only a cross-sectional study. So a longitudinal study with proper follow-up is the need for the future.
2. The assessment of the psychological framework of the patients in the preoperative state should be considered for future studies
3. Personality factors and the intelligence of the patients are to be evaluated in the future studies.
4. The present study has highlighted the lack of standardised scales pertaining to the Indian Population in body image disturbances. Hence future studies

   should be conducted to formulate the scales to suit the socioeconomic and socio cultural background of the Indian women.
5. After assessment the patients have to be treated accordingly, and then

   reassessed for effectiveness of the current psychotherapeutic modalities available and also to discover newer methods of treatment for these cancer patients.

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PROFORMA

A – SOCIODEMOGRAPHIC DATA

- Name :
- Age :
- Sex : Female
- Education : Nil/School/SSLC/HSC/Graduat
- Occupation : Unemployed/Non-Professional/Professional
- Income : LSES/MSES
- Marital Status : Unmarried / Married/Separated/Divorced/Widow
- Address : Urban/Semi – Urban/Rural
- Religion : Hindu / Muslim/Christian/Other
- Number of children :

B – ILLNESS DETAILS

- Diagnosis
- Stage / Grade of cancer
- Presence of metastases
- Duration of illness
- Mode of treatment
- Complication of disease (if any)
- Drug compliance (Good, poor)
- Perception of illness:
- Chemotherapy regimen used:

• Prophylactic antinauseants used: Y/N

• Psychological reaction: Fear/anger/grief/acceptance/denial

C- PAST HISTORY

• Mental illness – Y/N

• Medical illness – Y/N

• Past H/o of treatment for present complaints

• Suicidal attempt / gestures

• Drug intake → OC/Native treatment / HRT / Others

D- FAMILY H/O

• Family H/o of mental illness / Suicide/ Alcohol Abuse

. Similar illness [Breast and uterine cancer]

E-PERSONAL H/O

• Birth & Development H/o

• Menarche – age Menopause:

• Married Y/N

• Children Y/N

• Substance abuse - Y/N

• Sexual dysfunction – absent / present(Frequency reduced / abstinent)

F- PREMORBID PERSONALITY

G – MENTAL STATUS EXAM

H-PHYSICAL EXAMINATION –General and systemic examination

BODY IMAGE SCALE

1. Have you been feeling self conscious about your appearance ? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3 – very much

2. Have you felt less physically attractive as a result of your disease or treatment ? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3- very much

3. Have you been dissatisfied with your appearance when dressed? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3 – very much

4. Have you been feeling less feminine/masculine as a result of your disease or treatment? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3 – very much

5. Did you find it difficult to look at yourself naked? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3 – very much

6. Have you been feeling less sexually attractive as a result of your disease or treatment? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3 - very much

7. Did you avoid people because of the way you felt about your appearance? [ ]
   0 – not at all
   1 – a little
   3 – quite a bit
   4 – very much

8. Have you been feeling the treatment has left your body less whole? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3 – very much

9. Have you felt dissatisfied with your body? [ ]
   0 – not at all
   1 – a little
   2 – quite a bit
   3 – very much

10. Have you been dissatisfied with the appearance of your scar? [ ]
    0 – not at all
    1 – a little
    2 – quite a bit
    3 – very much

MBSRQ - AS

1	2	3	4	5
Definitely Disagree	**Mostly Disagree**	**Neither Agree Nor Disagree**	**Mostly Agree**	**Definitely Agree**

_____ 1. Before going out in public, I always notice how I look.

_____ 2. I am careful to buy clothes that will make me look my best.

_____ 3. My body is sexually appealing.

_____ 4. I constantly worry about being or becoming fat.

_____ 5. I like my looks just the way they are.

_____ 6. I check my appearance in a mirror whenever I can.

_____ 7. Before going out, I usually spend a lot of time getting ready.

_____ 8. I am very conscious of even small changes in my weight.

_____ 9. Most people would consider me good-looking.

_____ 10. It is important that I always look good.

_____ 11. I use very few grooming products.

_____ 12. I like the way I look without my clothes on.

_____ 13. I am self-conscious if my grooming isn't right.

_____ 14. I usually wear whatever is handy without caring how it looks.

_____ 15. I like the way my clothes fit me.

_____ 16. I don't care what people think about my appearance.

_____ 17. I take special care with my hair grooming.

_____ 18. I dislike my physique.

continued on the next page

1	2	3	4	5
Definitely Disagree	**Mostly Disagree**	**Neither Agree Nor Disagree**	**Mostly Agree**	**Definitely Agree**

_____ 19. I am physically unattractive.

_____ 20. I never think about my appearance.

_____ 21. I am always trying to improve my physical appearance.

_____ 22. I am on a weight-loss diet.

For the remainder of the items use the response scale given with the item, and enter your answer in the space beside the item.

_____ 23. I have tried to lose weight by fasting or going on crash diets.

1. Never
2. Rarely
3. Sometimes
4. Often
5. Very Often

_____ 24. I think I am:

1. Very Underweight
2. Somewhat Underweight
3. Normal Weight
4. Somewhat Overweight
5. Very Overweight

_____ 25. From looking at me, most other people would think I am:

1. Very Underweight
2. Somewhat Underweight
3. Normal Weight
4. Somewhat Overweight
5. Very Overweight

continued on the next page

26-34. Use this 1 to 5 scale to indicate how dissatisfied or satisfied you are with each of the following areas or aspects of your body:

1	2	3	4	5
Very Dissatisfied	**Mostly Dissatisfied**	**Neither Satisfied Nor Dissatisfied**	**Mostly Satisfied**	**Very Satisfied**

_____ 26. Face (facial features, complexion)

_____ 27. Hair (color, thickness, texture)

_____ 28. Lower torso (buttocks, hips, thighs, legs)

_____ 29. Mid torso (waist, stomach)

_____ 30. Upper torso (chest or breasts, shoulders, arms)

_____ 31. Muscle tone

_____ 32. Weight

_____ 33. Height

_____ 34. Overall appearance

HAMILTON DEPRESSION RATING SCALE (HAM-D)

(To be administered by a health care professional)

Patient Name _____ Today's Date _____

The HAM-D is designed to rate the severity of depression in patients. Although it contains 21 areas, calculate the patient's score on the first 17 answers.

☐ 1. DEPRESSED MOOD
(Gloomy attitude, pessimism about the future, feeling of sadness, tendency to weep)
0 = Absent
1 = Sadness, etc.
2 = Occasional weeping
3 = Frequent weeping
4 = Extreme symptoms

☐ 2. FEELINGS OF GUILT
0 = Absent
1 = Self-reproach, feels he/she has let people down
2 = Ideas of guilt
3 = Present illness is a punishment; delusions of guilt
4 = Hallucinations of guilt

☐ 3. SUICIDE
0 = Absent
1 = Feels life is not worth living
2 = Wishes he/she were dead
3 = Suicidal ideas or gestures
4 = Attempts at suicide

☐ 4. INSOMNIA - Initial
(Difficulty in falling asleep)
0 = Absent
1 = Occasional
2 = Frequent

☐ 5. INSOMNIA - Middle
(Complains of being restless and disturbed during the night. Waking during the night.)
0 = Absent
1 = Occasional
2 = Frequent

☐ 6. INSOMNIA - Delayed
(Waking in early hours of the morning and unable to fall asleep again)
0 = Absent
1 = Occasional
2 = Frequent

☐ 7. WORK AND INTERESTS
0 = No difficulty
1 = Feelings of incapacity, listlessness, indecision and vacillation
2 = Loss of interest in hobbies, decreased social activities
3 = Productivity decreased
4 = Unable to work. Stopped working because of present illness only. (Absence from work after treatment or recovery may rate a lower score).

☐ 8. RETARDATION
(Slowness of thought, speech, and activity; apathy; stupor.)
0 = Absent
1 = Slight retardation at interview
2 = Obvious retardation at interview
3 = Interview difficult
4 = Complete stupor

☐ 9. AGITATION
(Restlessness associated with anxiety.)
0 = Absent
1 = Occasional
2 = Frequent

☐ 10. ANXIETY - PSYCHIC
0 = No difficulty
1 = Tension and irritability
2 = Worrying about minor matters
3 = Apprehensive attitude
4 = Fears

HAMILTON DEPRESSION RATING SCALE (HAM-D)

(To be administered by a health care professional)

☐ 11. ANXIETY - SOMATIC
Gastrointestinal, indigestion
Cardiovascular, palpitation, Headaches
Respiratory, Genito-urinary, etc.
0 = Absent
1 = Mild
2 = Moderate
3 = Severe
4 = Incapacitating

☐ 12. SOMATIC SYMPTOMS - GASTROINTESTINAL
(Loss of appetite , heavy feeling in abdomen; constipation)
0 = Absent
1 = Mild
2 = Severe

☐ 13. SOMATIC SYMPTOMS - GENERAL
(Heaviness in limbs, back or head; diffuse backache; loss of energy and fatiguability)
0 = Absent
1 = Mild
2 = Severe

☐ 14. GENITAL SYMPTOMS
(Loss of libido, menstrual disturbances)
0 = Absent
1 = Mild
2 = Severe

☐ 15. HYPOCHONDRIASIS
0 = Not present
1 = Self-absorption (bodily)
2 = Preoccupation with health
3 = Querulous attitude
4 = Hypochondriacal delusions

☐ 16. WEIGHT LOSS
0 = No weight loss
1 = Slight
2 = Obvious or severe

☐ 17. INSIGHT
(Insight must be interpreted in terms of patient's understanding and background.)
0 = No loss
1 = Partial or doubtfull loss
2 = Loss of insight

TOTAL ITEMS 1 TO 17: _____
0 - 7 = Normal
8 - 13 = Mild Depression
14-18 = Moderate Depression
19 - 22 = Severe Depression
≥ 23 = Very Severe Depression

☐ 18. DIURNAL VARIATION
(Symptoms worse in morning or evening. Note which it is.)
0 = No variation
1 = Mild variation; AM ( ) PM ( )
2 = Severe variation; AM ( ) PM ( )

☐ 19. DEPERSONALIZATION AND DEREALIZATION
(feelings of unreality, nihilistic ideas)
0 = Absent
1 = Mild
2 = Moderate
3 = Severe
4 = Incapacitating

☐ 20. PARANOID SYMPTOMS
(Not with a depressive quality)
0 = None
1 = Suspicious
2 = Ideas of reference
3 = Delusions of reference and persecution
4 = Hallucinations, persecutory

☐ 21. OBSESSIONAL SYMPTOMS
(Obsessive thoughts and compulsions against which the patient struggles)
0 = Absent
1 = Mild
2 = Severe

* Adapted from Hamilton, M. *Journal of Neurology, Neurosurgery, and Psychiatry.* 23:56-62, 1960.

Hamilton Anxiety Rating Scale (HAM-A)

Below is a list of phrases that describe certain feeling that people have. Rate the patients by finding the answer which best describes the extent to which he/she has these conditions. Select one of the five responses for each of the fourteen questions.

0 = Not present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe.

1 Anxious mood [0] [1] [2] [3] [4]

Worries, anticipation of the worst, fearful anticipation, irritability.

2 Tension [0] [1] [2] [3] [4]

Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax.

3 Fears [0] [1] [2] [3] [4]

Of dark, of strangers, of being left alone, of animals, of traffic, of crowds.

4 Insomnia [0] [1] [2] [3] [4]

Difficulty in falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, dreams, nightmares, night terrors.

5 Intellectual [0] [1] [2] [3] [4]

Difficulty in concentration, poor memory.

6 Depressed mood [0] [1] [2] [3] [4]

Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing.

7 Somatic (muscular) [0] [1] [2] [3] [4]

Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone.

8 Somatic (sensory) [0] [1] [2] [3] [4]

Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation.

9 Cardiovascular symptoms [0] [1] [2] [3] [4]

Tachycardia, palpitations, pain in chest, throbbing of vessels, fainting feelings, missing beat.

10 Respiratory symptoms [0] [1] [2] [3] [4]

Pressure or constriction in chest, choking feelings, sighing, dyspnea.

11 Gastrointestinal symptoms [0] [1] [2] [3] [4]

Difficulty in swallowing, wind abdominal pain, burning sensations, abdominal fullness, nausea, vomiting, borborygmi, looseness of bowels, loss of weight, constipation.

12 Genitourinary symptoms [0] [1] [2] [3] [4]

Frequency of micturition, urgency of micturition, amenorrhea, menorrhagia, development of frigidity, premature ejaculation, loss of libido, impotence.

13 Autonomic symptoms [0] [1] [2] [3] [4]

Dry mouth, flushing, pallor, tendency to sweat, giddiness, tension headache, raising of hair.

14 Behavior at interview [0] [1] [2] [3] [4]

Fidgeting, restlessness or pacing, tremor of hands, furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc.

82

ENGLISH

EORTC QLQ-C30 (version 3)

We are interested in some things about you and your health. Please answer all of the questions yourself by circling the number that best applies to you. There are no "right" or "wrong" answers. The information that you provide will remain strictly confidential.

Please fill in your initials:
Your birthdate (Day, Month, Year):
Today's date (Day, Month, Year): 31

		Not at All	A Little	Quite a Bit	Very Much
1.	Do you have any trouble doing strenuous activities, like carrying a heavy shopping bag or a suitcase?	1	2	3	4
2.	Do you have any trouble taking a long walk?	1	2	3	4
3.	Do you have any trouble taking a short walk outside of the house?	1	2	3	4
4.	Do you need to stay in bed or a chair during the day?	1	2	3	4
5.	Do you need help with eating, dressing, washing yourself or using the toilet?	1	2	3	4

During the past week:		Not at All	A Little	Quite a Bit	Very Much
6.	Were you limited in doing either your work or other daily activities?	1	2	3	4
7.	Were you limited in pursuing your hobbies or other leisure time activities?	1	2	3	4
8.	Were you short of breath?	1	2	3	4
9.	Have you had pain?	1	2	3	4
10.	Did you need to rest?	1	2	3	4
11.	Have you had trouble sleeping?	1	2	3	4
12.	Have you felt weak?	1	2	3	4
13.	Have you lacked appetite?	1	2	3	4
14.	Have you felt nauseated?	1	2	3	4
15.	Have you vomited?	1	2	3	4
16.	Have you been constipated?	1	2	3	4

Please go on to the next page

During the past week:	Not at All	A Little	Quite a Bit	Very Much
17. Have you had diarrhea?	1	2	3	4
18. Were you tired?	1	2	3	4
19. Did pain interfere with your daily activities?	1	2	3	4
20. Have you had difficulty in concentrating on things, like reading a newspaper or watching television?	1	2	3	4
21. Did you feel tense?	1	2	3	4
22. Did you worry?	1	2	3	4
23. Did you feel irritable?	1	2	3	4
24. Did you feel depressed?	1	2	3	4
25. Have you had difficulty remembering things?	1	2	3	4
26. Has your physical condition or medical treatment interfered with your family life?	1	2	3	4
27. Has your physical condition or medical treatment interfered with your social activities?	1	2	3	4
28. Has your physical condition or medical treatment caused you financial difficulties?	1	2	3	4

For the following questions please circle the number between 1 and 7 that best applies to you

29. How would you rate your overall health during the past week?

1	2	3	4	5	6	7
Very poor						Excellent

30. How would you rate your overall quality of life during the past week?

1	2	3	4	5	6	7
Very poor						Excellent

ENGLISH

EORTC QLQ - BR23

Patients sometimes report that they have the following symptoms or problems. Please indicate the extent to which you have experienced these symptoms or problems during the past week.

During the past week:	**Not at All**	**A Little**	**Quite a Bit**	**Very Much**
31. Did you have a dry mouth?	1	2	3	4
32. Did food and drink taste different than usual?	1	2	3	4
33. Were your eyes painful, irritated or watery?	1	2	3	4
34. Have you lost any hair?	1	2	3	4
35. Answer this question only if you had any hair loss: Were you upset by the loss of your hair?	1	2	3	4
36. Did you feel ill or unwell?	1	2	3	4
37. Did you have hot flushes?	1	2	3	4
38. Did you have headaches?	1	2	3	4
39. Have you felt physically less attractive as a result of your disease or treatment?	1	2	3	4
40. Have you been feeling less feminine as a result of your disease or treatment?	1	2	3	4
41. Did you find it difficult to look at yourself naked?	1	2	3	4
42. Have you been dissatisfied with your body?	1	2	3	4
43. Were you worried about your health in the future?	1	2	3	4

During the past four weeks:	**Not at All**	**A Little**	**Quite a Bit**	**Very Much**
44. To what extent were you interested in sex?	1	2	3	4
45. To what extent were you sexually active? (with or without intercourse)	1	2	3	4
46. Answer this question only if you have been sexually active: To what extent was sex enjoyable for you?	1	2	3	4

Please go on to the next page

ENGLISH

During the past week:	Not at All	A Little	Quite a Bit	Very Much
47. Did you have any pain in your arm or shoulder?	1	2	3	4
48. Did you have a swollen arm or hand?	1	2	3	4
49. Was it difficult to raise your arm or to move it sideways?	1	2	3	4
50. Have you had any pain in the area of your affected breast?	1	2	3	4
51. Was the area of your affected breast swollen?	1	2	3	4
52. Was the area of your affected breast oversensitive?	1	2	3	4
53. Have you had skin problems on or in the area of your affected breast (e.g., itchy, dry, flaky)?	1	2	3	4

EORTC QLQ – EN24

Patients sometimes report that they have the following symptoms or problems. Please indicate the extent which you have experienced these symptoms or problems.

During the past week:	Not at all	A little	Quite a bit	Very much
31. Have you had swelling in one or both legs?	1	2	3	4
32. Have you felt heaviness in one or both legs?	1	2	3	4
33. Have you had pain in your lower back and / or pelvis?	1	2	3	4
34. When you felt the urge to pass urine, did you have to hurry to get to the toilet?	1	2	3	4
35. Have you passed urine frequently?	1	2	3	4
36. Have you had leaking of urine?	1	2	3	4
37. Have you had pain or a burning feeling when passing urine?	1	2	3	4
38. When you felt the urge to move your bowels, did you have to hurry to get to the toilet?	1	2	3	4
39. Have you had any leakage of stools?	1	2	3	4
40. Have you been troubled by passing wind?	1	2	3	4
41. Have you had cramps in your abdomen?	1	2	3	4
42. Have you had a bloated feeling in your abdomen?	1	2	3	4
43. Have you had tingling or numbness in your hands or feet?	1	2	3	4
44. Have you had aches or pains in your muscles or joints?	1	2	3	4
45. Have you lost hair?	1	2	3	4
46. Has food and drink tasted differently from usual?	1	2	3	4

Please go on to the next page

During the past week:	Not at all	A little	Quite a bit	Very much
47. Have you felt physically less attractive as a result of your disease or treatment?	1	2	3	4
48. Have you felt less feminine as a result of your disease or treatment?	1	2	3	4

During the past 4 weeks:	Not at all	A little	Quite a bit	Very much
49. To what extent were you interested in sex?	1	2	3	4
50. To what extent were you sexually active?	1	2	3	4
Answer these questions only if you have been sexually active during the past 4 weeks:				
51. Has your vagina felt dry during sexual activity?	1	2	3	4
52. Has your vagina felt short and / or tight?	1	2	3	4
53. Have you had pain during sexual intercourse or other sexual activity?	1	2	3	4
54. Was sexual activity enjoyable for you?	1	2	3	4

EORTC QLQ - C30 (version 3)

நாங்கள் உங்களையும், உங்கள் ஆரோக்கியத்தையும் பற்றி சில விஷயங்களை அறிய ஆர்வமாய் உள்ளோம். தயவு செய்து எல்லாக் கேள்விகளுக்கும் நீங்களே பதில் தாருங்கள். உங்களுக்கு உச்ச அளவில் பொருந்தும் எண்ணைச் சுற்றி வட்டமிடவும். "சரியான" அல்லது "தவறான" பதில்கள் கிடையாது. நீங்கள் தரும் விபரம் கண்டிப்பாக ரகசியமாக இருக்கும்.

தயவு செய்து உங்கள் பெயரின் முதல் எழுத்துகளை இட்டு நிரப்பவும். _____

உங்களது பிறந்த தேதி (நாள், மாதம், வருடம்) _____

இன்றைய தேதி _____

		இல்லவே இல்லை	ஒரு சிறிது	கணிசமாக	மிக அதிக அளவு
1	நீங்கள் ஒரு கனமான கடைச் சரக்குப்பை அல்லது ஒரு கைப் பெட்டியைத் தூக்குவது போன்ற கடினமான வேலைகள் செய்கையில் ஏதாவது தொல்லை அனுபவிக்கிறீர்களா?	1	2	3	4
2	நீண்ட நேர நடை எடுக்கையில் நீங்கள் ஏதாவது தொல்லை கொண்டுள்ளீர்களா?	1	2	3	4
3	வீட்டுக்கு வெளியில் சின்ன நடை எடுக்கையில் நீங்கள் ஏதேனும் தொல்லை கொண்டுள்ளீர்களா?	1	2	3	4
4	பகலில் படுக்கை மீது அல்லது ஒரு நாற்காலியில் இருக்கும்படி நீங்கள் தேவையை உணர்கிறீர்களா?	1	2	3	4
5	நீங்கள் சாப்பிட, உடுத்த, குளிக்க அல்லது கழிப்பிடத்தைப் பயன்படுத்த உதவி தேவைப்படுகிறதா?	1	2	3	4

கடந்த வாரத்தின் போது:

6	நீங்கள் உங்கள் வேலையையோ அல்லது மற்ற ஒவ்வொரு நாள் நடவடிக்கைகளையோ செய்கையில் வரம்புக்குள் இருந்தீர்களா?	1	2	3	4
7	நீங்கள் உங்களது பிடித்த பொழுது போக்குகள் அல்லது பிற ஓய்வு நேர நடவடிக்கைகளைத் தொடரும் போது வரம்புக்குள் இருந்தீர்களா?	1	2	3	4
8	நீங்கள் மூச்சுத் திணறலுடன் இருந்தீர்களா?	1	2	3	4
9	நீங்கள் உடலில் வலி கொண்டிருந்தீர்களா?	1	2	3	4
10	நீங்கள் ஓய்வு எடுக்கத் தேவைப்பட்டதா?	1	2	3	4
11	நீங்கள் தூங்குவதில் தொல்லை கொண்டிருந்தீர்களா?	1	2	3	4
12	நீங்கள் பலவீனமாக உணர்ந்து இருந்தீர்களா?	1	2	3	4

தயவு செய்து அடுத்த பக்கத்திற்குப் போகவும்.

	கடந்த வாரத்தின் போது:	இல்லவே இல்லை	ஒரு சிறிது	கணிசமாக	மிக அதிக அளவு
13	நீங்கள் பசியெடுப்பது இல்லாது இருந்தீர்களா?	1	2	3	4
14	நீங்கள் குமட்டுவது போல உணர்ந்தீர்களா?	1	2	3	4
15	நீங்கள் வாந்தியெடுத்துள்ளீர்களா?	1	2	3	4
16	நீங்கள் மலச்சிக்கல் கொண்டிருந்தீர்களா?	1	2	3	4
17	நீங்கள் தொடர்ந்து வயிற்றுப் போக்கு கொண்டிருந்தீர்களா?	1	2	3	4
18	நீங்கள் களைப்படைந்தீர்களா?	1	2	3	4
19	வலி உங்களது தினசரி நடவடிக்கைகளில் இடையூறு செய்ததா?	1	2	3	4
20	நீங்கள் ஒரு செய்தித்தாள் வாசிப்பது அல்லது தொலைக்காட்சி பார்ப்பது போன்ற விஷயங்கள் மேல் கவனம் செலுத்துவதில் கஷ்டம் கொண்டிருந்தீர்களா?	1	2	3	4
21	நீங்கள் பதற்றமான இறுக்கத்தை உணர்ந்தீர்களா?	1	2	3	4
22	நீங்கள் கவலைப்பட்டீர்களா?	1	2	3	4
23	நீங்கள் எரிச்சல் பட்டீர்களா?	1	2	3	4
24	நீங்கள் மன அழுத்தம் உணர்ந்தீர்களா?	1	2	3	4
25	நீங்கள் பொருட்களை ஞாபகம் கொள்வதில் கஷ்டப்பட்டிருந்தீர்களா?	1	2	3	4
26	உங்கள் உடல் நிலவரம் அல்லது மருத்துவச் சிகிச்சை உங்களது குடும்ப வாழ்க்கையோடு குறுக்கிட்டுப் பாதித்து இருக்கிறதா?	1	2	3	4
27	உங்கள் உடல் நிலவரம் அல்லது மருத்துவச் சிகிச்சை உங்களது சமூக நடவடிக்கைகளோடு குறுக்கிட்டுப் பாதித்து இருக்கிறதா?	1	2	3	4
28	உங்கள் உடல் நிலவரம் அல்லது மருத்துவச் சிகிச்சை உங்களுக்கு நிதிக் கஷ்டங்களை உண்டாக்கி உள்ளதா?	1	2	3	4

பின்வரும் கேள்விகளுக்கு 1லிருந்து 7 முடிய உ ள்ள எண்களில், உங்களது நிலவரத்திற்கு உச்ச அளவில் பொருந்தும் எண்ணைச் சுற்றி தயவு செய்து வட்டமிடவும்.

29 கடந்த வாரத்தின் போது, பொதுவாக, உங்களுடைய ஆரோக்கியத்தை நீங்கள் எவ்வாறு மதிப்பீடு செய்வீர்கள்?

1 2 3 4 5 6 7

(மிக மோசம்) (பிரமாதம்)

30 கடந்த வாரத்தின் போது, பொதுவாக, உங்களுடைய வாழ்க்கைத் தரத்தை நீங்கள் எவ்வாறு மதிப்பீடு செய்வீர்கள்?

1 2 3 4 5 6 7

(மிக மோசம்) (பிரமாதம்)

EORTC QLQ – BR23

சில வேளைகளில் நோயாளிகள் கீழ்வரும் அறிகுறிகளையும் பிரச்சனைகளையும் எதிர்நோக்கியிருப்பதைத் தெரிவித்துள்ளனர். தயவு செய்து கீழே கொடுக்கப்பட்டுள்ள அறிகுறிகளையும் பிரச்சனைகளையும் கடந்த ஒரு வாரத்தில் எந்த அளவு அனுபவித்தீர்கள் என்பதைக் குறிப்பிடவும்.

கடந்த ஒரு வாரத்தில்:	இல்லவேயில்லை	கொஞ்சம்	கொஞ்சம் அதிகமாக	அதிகமாக
31. உங்களின் வாய் அதிகமாக காய்ந்து போய் இருந்ததா?	1	2	3	4
32. வழக்கத்தைவிட தண்ணீரும் சாப்பாடும் வேறு சுவையாக இருந்ததா?	1	2	3	4
33. உங்கள் கண்களில் வலியோ, எரிச்சலோ அல்லது நீர் கசிவோ இருந்ததா?	1	2	3	4
34. உங்களுக்கு முடி உதிர்ந்ததா?	1	2	3	4
35. உங்களுக்கு முடி உதிர்ந்திருந்தால் மட்டுமே இந்தக் கேள்விக்கு விடையளிக்கவும்.முடி உதிர்வதால் நீங்கள் கவலையடைந்துள்ளீர்களா?	1	2	3	4
36.நீங்கள் உடல் சோர்வாகவோ அல்லது நோய்வாய்ப்பட்டிருப்பதாகவோ உணர்ந்தீர்களா?	1	2	3	4
37 முகத்தில் வியர்வையுடன் கூடிய, திடீரான, தீவிர வெப்ப உணர்வை நீங்கள் அனுபவித்தீர்களா?	1	2	3	4
38. உங்களுக்குத் தலைவலி ஏற்பட்டதா?	1	2	3	4
39. உங்கள் நோயால் அல்லது சிகிச்சையால் உங்களது உடல் ரீதியான அழகு குறைந்துவிட்டதாகத் தோன்றியதா?	1	2	3	4
40. உங்களின் நோயால் மற்றும் சிகிச்சையால் பெண்மைக்குரிய தன்மைகள் குறைந்துள்ளதாக உணர்கிறீர்களா?	1	2	3	4
41. உங்களைத் திறந்த மேனியாக (நிர்வாணமாக) பார்க்க சிரமமாக உள்ளதா?	1	2	3	4
42. உங்களின் உடல் உங்களுக்குக் குறையாகத் தெரிகிறதா?	1	2	3	4
43. எதிர்காலத்தில் உங்கள் உடல்நிலை எவ்வாறு இருக்கும் என்பதை நினைத்து வருத்தம் அடைந்தீர்களா?				

கடந்த 4 வாரத்தில்:	இல்லவேயில்லை	கொஞ்சம்	கொஞ்சம் அதிகமாக	அதிகமாக
44. உடலுறவில் உங்களுக்கு எந்தளவு நாட்டம் உள்ளது?	1	2	3	4
45. பாலியல் ரீதியாக நீங்கள் எந்த அளவிற்குத் துடிப்புடன் இருந்தீர்கள்? (உடலுறவுடன் அல்லது உடலுறவு இல்லாமல்)	1	2	3	4
46. நீங்கள் பாலியல் ரீதியாகத் துடிப்புடன் இருந்திருந்தால் மட்டுமே இந்தக் கேள்விக்கு பதிலளியுங்கள்: உடலுறவு உங்களுக்கு எந்த அளவிற்கு இன்பம் அளித்தது?	1	2	3	4

தயவு செய்து அடுத்த பக்கத்திற்குப் போகவும்

கடந்த ஒரு வாரத்தில்:	இல்லவேயில்லை	கொஞ்சம்	கொஞ்சம் அதிகமாக	அதிகமாக
47. உங்களுக்கு மேல்கையிலோ தோளிலோ வலி இருந்ததா?	1	2	3	4
48. உங்கள் மேல்கை அல்லது கையில் வீக்கம் இருந்ததா?	1	2	3	4
49. உங்கள் மேல்கையை உயர்த்துவதோ பக்கவாட்டில் அசைப்பதோ சிரம்மாக இருந்ததா?	1	2	3	4
50. உங்களின் பாதிக்கப்பட்ட மார்பகப் பகுதியில் வலி ஏற்பட்டதா?	1	2	3	4
51. உங்களின் பாதிக்கப்பட்ட மார்பகப் பகுதியில் வீக்கம் ஏற்பட்டதா?	1	2	3	4
52. உங்கள் பாதிக்கப்பட்ட மார்பகப் பகுதி அதிவுணர்வோடு இருந்ததா?	1	2	3	4
53. உங்களின் பாதிக்கப்பட்ட மார்பகத்தில் ஏதாவது தோல் சம்பந்தப்பட்ட பிரச்சனைகள் உள்ளதா? (எ.கா. அரிப்பு, காய்ந்த நிலை, திட்டு திட்டாக)	1	2	3	4

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI -3

Telephone No : 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
Dr. V. Sushma
PG in MD Psychiatry
Madras Medical College ,Chennai -3

Dear Dr. V. Sushma

The Institutional Ethics committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled "A comparative study on the disturbance in body image psychiatric morbidity and their effects on quality of life in postmastectomy and post-hysterectomy cancer patients " No.35072012.

The following members of Ethics Committee were present in the meeting held on 24.07.2012 conducted at Madras Medical College, Chennai -3.

1.	Dr. S.K. Rajan. M.D.,FRCP.,DSc	-- Chairperson
2.	Prof. Pregna B. Dolia MD Vice Prinicpal, Madras Medical College, Chennai-3 Director , Inst. of Biochemistry, MMC, Ch-3	-- Member Secretary
3.	Prof. Kalaiselvi MD Prof of Pharmacology ,MMC, Ch-3	-- Member
4.	Prof. C. Rajendiran, MD Director , Inst. of Internal Medicine, MMC, Ch-3	-- Member
5.	Prof. MD Ali M.D,. D.M., Prof & HOD, Dept. of MGE, MMC, Ch-3	-- Member
6.	Prof. S. Deivanayagam MS Prof of Surgery, MMC, Ch-3	-- Member
7.	Thiru. S. Govindsamy. BABL	-- Lawyer
8.	Tmt. Arnold Soulina MA MSW	-- Social Scientist

We approve the proposal to be conducted in its presented form.

Sd/ Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information / informed consent and asks to be provided a copy of the final report.

Member Secretary, Ethics Committee

ஆராய்ச்சி ஒப்புதல் கடிதம்

ஆராய்ச்சி தலைப்பு :

பெயர் : தேதி :

வயது : உள் நோயாளி எண் :

பால் : ஆராய்ச்சி சேர்க்கை என் :

இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக எனக்கு தெளிவாக விளக்கப்பட்டது.

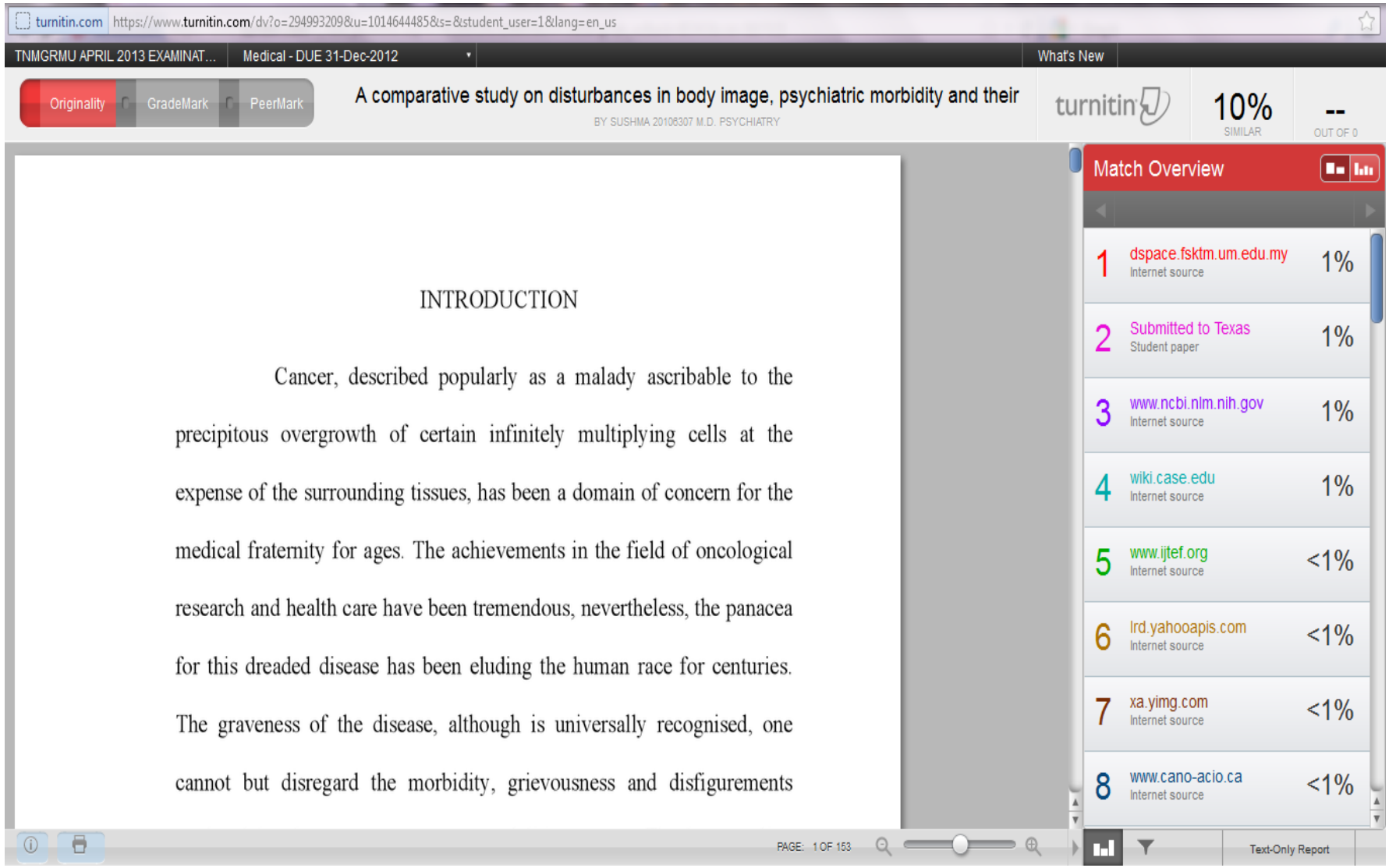
எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்துகொண்டு நான் எனத சம்மதத்தைத் தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் பிறரின் நிர்ப்பந்தமின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின்வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்துகொண்டேன்.

இந்த ஆராய்ச்சியின் விவரங்களைக் கொண்ட மருத்துவ ஆராய்ச்சியில் என்னை சேர்த்துக் கொள்ள சம்மதிக்கிறேன்.

நான் என்னுடைய சுயநினைவுடன் மற்றும் முழு சுதந்திரத்துடன் இந்த மருத்துவ ஆராய்ச்சியில் என்னை சேர்த்துக்கொள்ள சம்மதிக்கிறேன்.

கையொப்பம்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A comparative study on disturbances in body image, psychiatric morbidity and their
BY SUSHMA 20106307 M.D. PSYCHIATRY
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INTRODUCTION
Cancer, described popularly as a malady ascribable to the precipitous overgrowth of certain infinitely multiplying cells at the expense of the surrounding tissues, has been a domain of concern for the medical fraternity for ages. The achievements in the field of oncological research and health care have been tremendous, nevertheless, the panacea for this dreaded disease has been eluding the human race for centuries. The graveness of the disease, although is universally recognised, one cannot but disregard the morbidity, grievousness and disfigurements
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